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Ice Thickness Observations
North American Arctic and Subarctic, 1974–75, 1975–76 and 1976–77

Michael A. Bilello and Virgil J. Lunardini

May 1996

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Abstract

This is the ninth in a series of reports on lake and river ice and land-fast sea ice. It presents ice thickness measurements taken throughout the North American Arctic and Subarctic during the 1974–75, 1975–76 and 1976–77 winter seasons. Information on surface ice conditions, dates of first ice, freeze-over, breakup and observed maximum ice thicknesses are also included.

For conversion of SI units to non-SI units of measurement consult ASTM Standard E380-93, *Standard Practice for Use of the International System of Units,* published by the American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa. 19103.

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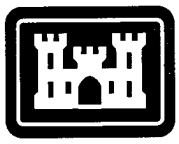

US Army Corps of Engineers
Cold Regions Research & Engineering Laboratory

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PREFACE

This report was prepared by Michael A. Bilello, Meteorologist, and Dr. Virgil J. Lunardini, Mechanical Engineer, Applied Research Division, Research and Engineering Directorate, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire.

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The data presented in this report were obtained through a cooperative ice observing program established by CRREL with the following U.S. and Canadian agencies: 1) National Weather Service, Alaskan Region, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and 2) Atmospheric Environmental Service, Department of the Environment, Canada.

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NETWORK CHANGES

A list of all the stations participating in the program during 1974–75, 1975–76 and 1976–77, with their coordinates and elevation are tabulated in this section for Canada and Alaska. Discussions on changes in the ice networks, such as new or deactivated stations from 1962 through 1974, are given in Parts III–VIII of this series. Since 1960, from 35 to 53 stations in Canada and from 16 to 27 stations in Alaska have been providing data in the two primary networks.

In Canada, full or partial information for the following 11 new ice observation sites was received during some intervals of the three winters under study: Bagotville, Blanc Sablon, Harrington Harbour, Havre Ste. Pierre, Johnson Point, La Grande, Natashquan, Pond Inlet, Primrose Lake, Spence Bay and Ste. Agathe des Monts. Ice thickness data ended from only one Canadian station previously in the network (Coburg Island, NWT). In total, therefore, during the three winters described here, ice information for 63 stations in Canada is given in this Part IX (Fig. 1).

In Alaska, ice data from all of the Alaska Eskimo scout sites, except Emmonak, were no longer being received. Four other Alaskan sites, Galena, Point Hope, Tonacross and Unalakleet, previously in the original network also did not provide ice information during 1974–75, 1975–76 and 1976–77. Complete or partial ice records during these winters were received from the following new Alaskan stations: Anchorage, Chena River, Eagle, Rampart II, Russian Mission and Steese Highway (Mile 41). During the three winters under study then, there are a total of 28 stations (Table II) (Fig. 2).

At some stations, for example Alert and Koartak, Canada, ice thicknesses were measured at more than one site and, in several instances, the period of record began late or ended early, so that the season record was brief. At the end of the 1976–77 winter season, there were a total of 83 stations (58 in Canada and 25 in Alaska) providing ice thickness data in the North American Arctic and Subarctic. As noted in previous reports, about one-third of the sites in Canada and about two-thirds of those in Alaska are inland lake or river freshwater sites. The other harbor, bay or river-delta locations are near salt or brackish water bodies where ice thickness measurements are made on land-fast sea ice.

The names of the bodies of water on which the ice measurements were made, and the observa-

Coordinates and elevations of Canadian stations.

Station name	*Latitude (N)*	*Longitude (W)*	*Elevation (ft)*
Alert, NWT	82°30′	62°20′	205
Bagotville	≈48°25′	≈71°15′	Missing
Baker Lake, NWT	64°18′	96°00′	30
Big Trout Lake, ONT	53°50′	89°52′	720
Blanc Sablon	≈51°25′	≈57°10′	Missing
Botwood, NFLD	49°09′	55°21′	49
Brochet, MAN	57°53′	101°40′	1150
Cambridge Bay, NWT	69°06′	105°08′	74
Cape Dorset, NWT	64°13′	76°32′	150
Cape Parry, NWT	70°10′	124°41′	53
Caraquet, N.B.	47°48′	64°56′	59
Cartwright, NFLD	53°42′	57°00′	34
Chesterfield Inlet, NWT	63°20′	90°43′	13
Churchill, MAN	58°45′	94°40′	15
Clyde, NWT	70°27′	68°33′	10
Coppermine, NWT	67°49′	115°05′	28
Coral Harbour, NWT	64°12′	83°22′	193
Corner Brook, NFLD	48°57′	57°57′	210
Cree Lake, SASK	57°21′	107°08′	16
Ennadai Lake, NWT	61°08′	100°55′	1065
Eureka, NWT	80°00′	85°56′	8
Fort Chimo, QUE	58°05′	68°25′	Missing
Fort Chipewyan, ALTA	58°43′	111°09′	68
Fort George, QUE	53°50′	79°00′	Missing
Frobisher Bay, NWT	63°45′	68°33′	68
Gimli, MAN	50°37′	96°59′	732
Goose Bay, NFLD	53°19′	60°25′	144
Hall Beach, NWT	68°47′	81°25′	34
Harrington Harbour	≈50°30′	≈59°30′	Missing
Havre Ste. Pierre	≈50°15′	≈63°35′	Missing
Hopedale, NFLD	55°28′	60°12′	35
Inoucdjouac, QUE	58°27′	78°07′	16
Inuvik, NWT	68°13′	133°29′	198
Isachsen, NWT	79°47′	103°32′	83
Island Lake, MAN	53°52′	94°40′	781
Johnson Point	≈72°30′	≈117°00′	Missing
Koartak, QUE	61°05′	69°35′	Missing
La Grande	≈53°15′	≈77°13′	Missing
Matagami, QUE	49°46′	77°48′	922
Moosonee, ONT	51°16′	80°39′	34
Mould Bay, NWT	76°14′	119°20′	50
Natashquan	≈50°10′	≈61°50′	Missing
Nicolet, QUE	46°14′	72°36′	74
Nichequon, QUE	53°12′	70°54′	1690
Norman Wells, NWT	65°17′	126°48′	209
Norway House, MAN	53°58′	97°50′	731
Pond Inlet	≈72°30′	≈74°00′	Missing
Port Alfred, QUE	48°20′	70°52′	Missing
Poste de la Baleine, QUE	55°17′	77°47′	Missing
Primrose Lake	≈54°55′	≈109°45′	Missing
Resolute, NWT	74°43′	94°59′	209
Sachs Harbour, NWT	71°57′	124°44′	277
Sault Ste. Marie, ONT	46°30′	84°25′	≈656
Scheffervile, QUE	54°48′	66°46′	1713
Shepherd Bay, NWT	68°49′	93°26′	167
South Baymouth, ONT	45°35′	81°59′	596
Spence Bay	≈69°30′	≈93°15′	Missing
Ste. Agathe des Monts	≈46°05′	≈74°15′	Missing
Summerside, P.E.I.	46°26′	63°50′	79
Thunder Bay, ONT	48°25′	89°15′	738
Tuktoyaktuk, NWT	69°26′	133°02′	16
Welland Canal, ONT	≈43°00′	79°16′	Missing
Yellowknife, NWT	62°28′	114°27′	682

Coordinates and elevation of Alaskan stations.

Station name	*Latitude (N)*	*Longitude (W)*	*Elevation (ft)*
Allakaket	66°08'	145°31'	2020
Barrow	71°18'	156°47'	31
Barter Island	70°08'	143°38'	39
Bethel	60°47'	161°48'	125
Bettles	66°54'	151°31'	666
Chalkyitsik	66°38'	143°43'	560
Chandalar Lake	67°30'	148°30'	1840
Emmonak	≈ 62°45'	≈ 164°45'	≈ 15
Fairbanks	64°49'	147°52'	436
Fort Yukon	66°33'	145°12'	443
Holly Cross	62°10'	159°45'	200
King Salmon	58°41'	156°45'	49
Kobuk	≈ 66°50'	≈ 156°50'	Missing
Kotzebue	66°52'	162°38'	10
Mankomen Lake	62°59'	144°29'	3025
McGrath	62°58'	155°37'	344
Northway	62°57'	141°56'	1713
Nunivak	60°23'	166°12'	44
Port Alsworth	60°12'	154°18'	260
Snowshoe Lake	62°02'	146°40'	2410
Tanana	65°10'	152°06'	232
Trappers Creek	≈ 65°20'	≈ 150°10'	Missing
New Stations			
Anchorage	≈ 61°10'	≈ 149°55'	Missing
Chena River	≈ 64°50'	≈ 147°50'	Missing
Eagle	≈ 64°45'	≈ 141°15'	Missing
Rampart II	≈ 65°30'	≈ 150°10'	Missing
Russian Mission	≈ 61°45'	≈ 161°30'	Missing
Steese Highway (Mile 41)	≈ 65°15'	≈ 147°15'	Missing

tion dates, are given in the ice thickness data sheets (Tables I, II and III). A description of the observational procedures, including a sample data sheet, is given in Part II (Bilello 1964) of this series. The tabulated ice thicknesses and depth of snow on the ice are given in both inches and centimeters. As in previous reports, all detailed information received on ice conditions from the date of final formation to complete ice clearance is given in the *Remarks* column in Tables I, II and III. Additional pertinent observations, such as boating, icebreaking, traffic on the ice, and the density of the snowcover on the ice, also appear in the *Remarks* column when provided in the original records.

Note that an asterisk is shown at the head of each Canadian station in Tables I and II, which indicates, as mentioned earlier, that the ice thickness records given in this report are incomplete since the entire record has previously been published (AES 1973, 1974). No asterisk is given for the Canadian stations in Table III because the appropriate Canadian report for that winter (1976–77) was unavailable, so all of the ice thicknesses given in the original data sheets were included here.

OBSERVED MAXIMUM ICE THICKNESSES

The maximum ice thickness observed at each of the stations for all three winter seasons are tabulated in this section for Canada and Alaska.

The figures in parenthesis indicate that the reported value may not be representative, and the *Remarks* column for that particular place and year may provide further details. The word "missing" indicates that no reliable maximum ice thickness value was given and a line in the tabulation indi-

Maximum observed ice thickness for the Canadian stations (inches).

Station	*1974–75*	*1975–76*	*1976–77*
Alert (Upper Dumbell Bay)	84	90	93
Alert (Inlet)	86	89	82
Bagotville (new)	—	33.5	33
Baker Lake	84	95	90
Big Trout Lake	41.5	46	46.5
Blanc Sablon (new)	—	43	33
Botwood	24	23	25
Brochet	36	33	36
Cambridge Bay	79.5	81	72.5
Cape Dorset (not shown)	(68)	54	(55)
Cape Parry	66	71.5	64
Caraquet	32	36	36.5
Cartwright	46	36	42
Chesterfield Inlet	63	78	72
Churchill	—	71	62
Clyde	64	52.5	58
Coppermine	58	76.5	69
Coral Harbour	72	77	66
Corner Brook	21	15	Missing
Cree Lake	30	32	34
Ennadai lake	51	58	71
Eureka	82	96.5	88.5
Fort Chimo	60	65	49
Fort Chipewyan	43	—	20
Fort George	Missing	—	—
Frobisher Bay	72	70	52
Gimli	39.5	35.5	48
Goose Bay	47.5	34	42
Hall Beach	(95)	(87)	79.5
Harrington Harbour (new)	—	28.5	32.5
Havre Ste. Pierre (new)	—	26	24.5
Hopedale	53	48	31
Inoucdjouc	86	(98)	89
Inuvik	48	53	28
Isachsen	90	80	96
Island Lake	43	37	33.5

Maximum observed ice thickness for the Canadian stations (inches) (cont'd).

Station	*1974–75*	*1975–76*	*1976–77*
Johnson point (new)	—	94	—
Koartak (Diana Bay)	54	34	42
Koartak (Unnamed Lake)	62	64	53.5
La Grande (new)	—	40	—
Matagami	—	35	30
Moosonee	49.5	(41)	36
Mould Bay	81	(83)	75
Natashquon (new)	—	36	23
Nicolet A	26.5	30	26
Nicolet B	24	31	25
Nicolet C	20	Missing	27
Nitchequon	40	47	43
Norman Wells	68	57	65.5
Norway House	30	34	28
Pond Inlet (new)	70	77	Missing
Port Alfred	26	Missing	—
Poste de la Baleine	60	50	46
Primrose Lake (new)	—	25	30
Resolute	86	89	72
Sachs Harbour	77	78	77.5
Sault Ste. Marie	18	0 to 10	5 to 25
Schefferville	62	45.5	53
Shepherd Bay	88	74	—
South Baymouth	22	29.5	—
Spence Bay (new)	—	94	—
Ste. Agathe des Monts (new)	—	—	31
Summerside	20.5	20	29
Thunder Bay	26.5	31	33
Tuktoyaktuk	77	88	Missing
Welland Canal	0 to 9	9.5 to 13.5	6 to 23
Yellowknife	39.5	51	54

Maximum observed ice thickness for the Alaskan stations (inches).

Station	*1974–75*	*1975–76*	*1976–77*
Allakaket	38	23	31
Anchorage	—	—	23
Barrow	—	74	87
Barter Island	83.5	86	81.5
Bethel	50.5	53.5	43.5
Bettles	36	Missing	48
Chalkyitsik	56	52	42
Chandalar Lake	42	54.5	41
Chena River	—	41	Missing
Eagle	32	32	36
Emmonak	—	—	Missing
Fairbanks	25.5	29.5	35
Fort Yukon	(41)	39	Missing
Holy Cross	50	—	—
King Salmon	44	(53)	14
Kobuk	52	41	39
Kotzebue	54	65.5	44.5
Mankomen Lake	40	61.5	36
McGrath	36	39	29
Northway	(60.5)	35	24
Nunivak	37	36.5	—
Port Alsworth	36	47	(13)
Rampart II	—	61	37
Russian Mission	—	—	46
Snowshoe Lake	29.5	36	33
Steese Highway (Mile 41)	Missing	—	36
Tanana	(50)	—	—
Trappers Creek	—	29.5	(33)

cates that no ice measurements were received during the winter at that site.

The greatest ice thickness recorded in Canada during the three winters was 98 in. at Inoucdjouac on 9 April 1976. The value, however, was questioned because the ice measurements one week before and one week afterward read 81.5 and 82.0 in. respectively. Subsequent ice measurements in April at this site did nevertheless reach 94.0 in. The next two highest values were 96.5 and 96.0 in. and they were found, respectively, at Eureka on 10 June 1976 and at Isachsen on 6 and 13 May 1977. A general overview of all the maximum values shown in the table reveals an areal distribution of conditions very similar to that shown on the charts displaying this phenomenon provided in the previous parts I through VIII of this series, i.e., that the areas of thickest ice occur in the northern and central regions of Canada, thinning outward toward the southeast and southwest.

The greatest ice thicknesses recorded in Alaska during the three winters under study were 87 in. observed at Barrow on 6 May 1977 and 86 in. at Barter Island on 10 April 1976. The lowest maximum values in Alaska, as also noted in the charts given in the previous series, are again found in the south-central part of the state. Three Canadian reports that provide a compilation of "normal" (ice average values) for the period 1961 through 1990 for three relevant subjects are as follows:

1. *Ice Thickness Climatology 1961–1990 Normals* (AES 1992a).

2. *Freeze-up and Break-up Data for Selected Canadian Stations 1961–1990 Normals* (AES 1992b).

3. *Melting and Freezing Degree-Days 1961–1990 Normals* (AES 1992c).

These publications should be referred to in studies on 30-year trends in ice conditions in the Canadian Arctic and Subarctic.

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AES (1992b) Freeze-up and break-up data for selected Canadian stations 1961–1990 normals. Ottawa, Ontario: Atmospheric Environmental Service, Department of the Environment, Canada, Ice Center.

AES (1992c) Melting and freezing degree-days 1961–1990 normals. Ottawa, Ontario: Atmospheric Environmental Service, Department of the Environment, Canada, Ice Center.

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TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Alert(A)* (N.W.T.):		**Measurements made on Upper Dumbell Lake, 75 yd offshore, and SW of pump house.**				
1974						
Sep	9					First day lake was completely frozen over.
	20	5.5	14	8.0	20	First observation of the season, ice previously unsafe.
Dec	20					No observation taken on this date due to several days of unfavorable weather.
1975						
May	16	81.5	207	17.0	43	
	23	82.0	208	20.0	51	
	30	84.0	213	17.0	43	Maximum ice thickness observed.
Jun	6	83.5	212	16.0	41	
	13	82.0	208	15.0	38	
	20	75.0	191	8.0	20	
	27	77.0	196	6.0	15	Observer crossed shore lead about 8-10 ft wide and with 2 ft of water depth on this date.
Jul	4	77.0	196	1.0	3	Shore lead too wide to cross safely after this date. Ice gradually melted until winds broke it up on 2 Aug 1975. Surface was smooth with no cracks reported throughout the season.
Alert(B)* (N.W.T.):		**Measurements made on Alert Inlet, 75 yd offshore east of the hydrographic benchmark.**				
1974						
Sep	11					Bay became completely frozen over on this date.
	20	4.0	10	6.0	15	First observation of the season, ice previously too dangerous.
Dec	20					No observation taken on this date due to several days of unfavorable weather.
1975						
Jun	13	80.0	203	13.0	33	
	20	79.0	201	12.0	30	Surface mostly slush.
	27	86.0	218	6.0	15	Maximum ice thickness observed. Snow, slush and 8 in. of the water on the surface. Some cracks noted this month.
Jul	4	83.0	211	1.0	3	Shore lead after this date prevented further ice observations. Surface smooth and no cracks reported until 13 June.
Aug	2					Surface and ice sheet melting continued until breakup on this date.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Allakaket (Alaska):		**Measurements made in front of St. Johns-in-the-Wilderness Church, on the Koyukuk River.**				
1974						
Oct	3					Date of first ice. Boating on the river ended.
	5					Lots of ice on the river.
	6					Ice formed across the river, except for a 3 ft wide lead along the shore.
	7					Fragmented ice in the river.
	12	6.0	15			
	19	12.0	30			
	26	19.0	48			
Nov	2	20.0	51			
	9	21.0	53	4.0	10	
	16	22.0	56	7.0	18	
	23	24.0	61	7.0	18	
	30	25.0	64	8.0	20	
Dec	7	27.0	69	8.0	20	
	14	28.0	71	8.0	20	
	21	30.0	76	7.0	18	
	28	31.0	79	7.0	18	
1975						
Jan	4	32.0	81	7.0	18	
	11	33.0	84	7.0	18	
	18	33.0	84	9.0	23	
	25	34.0	86	14.0	36	
Feb	1	35.0	89	14.0	36	
	8	36.0	91	14.0	36	
	15	37.0	94	14.0	36	
	22	38.0	97	17.0	43	
Mar	1	38.0	97	17.0	43	
	8	38.0	97	15.0	38	
	15	38.0	97	14.0	36	
	22	38.0	97	13.0	33	
	29	38.0	97	12.0	30	
Apr	5	38.0	97	11.0	28	
	12	38.0	97	9.0	23	10 in. of water over flow on the ice.
	19	38.0	97	7.0	18	
	26	38.0	97	6.0	15	Maximum ice reported from 22 Feb through 26 Apr.
May	3	37.0	94	3.0	8	Ice unsafe for vehicle use.
	10					Ice unsafe to walk on.
	12					Boating started on the river.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	13					Lots of ice observed flowing in the river during 10-13 May.
	14					Little ice in the river.
	15					River free of ice.
Baker Lake* (N.W.T): Measurements made on Baker Lake 120 yd south of pump house.						
1974						
Oct	18	8.5	22			First ice report. Surface smooth, no cracks observed.
	25	14.0	36	1.0	3	Surface smooth, few cracks observed.
Dec	6					No observation, observer inadvertently overlooked the scheduled time.
1975						
Feb	21					No observation. Auger was borrowed, and became stuck in the ice by the user.
Apr	4					No observation. The one serviceable auger became stuck in the ice.
	11	80.0	203	1.0	3	
	18	82.5	210			
	26	83.5	212			
May	2	84.0	213			Maximum ice thickness observed.
	9	83.0	211			
	16	80.5	204			
	23	72.0	183			
	30	60.0	152			
	31					Ice program discontinued due to 10 ft wide shore lead at this time.
Jun	15					Ice thickness at the observation site estimated to be over 4 ft thick, but is much thinner at the edge next to the shore lead.
Jul	3					Department of the Environment, Canada (1975) notes ice breakup from May 9 to July 3
Barter Island (Alaska):		**Measurements made 100 ft out on a freshwater lake.**				
1974						
Sep	23					First ice observed.
	25					First ice observed on Camden Bay.
	28					First ice observed on Beaufort Sea.
	29	1.5	4	1.0	3	Ice cracking when walked on, strength still weak.
Oct	1					Ice now safe to walk on. Boating on Camden Bay and the Beaufort Sea ended.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	4					Ice now safe for vehicles. Ice on Camden Bay and the Beaufort Sea safe to walk on.
	5	7.0	18			Strong winds blew all snow off the surface.
	12	11.0	28			Few ice cracks observed.
	19	14.0	36			Numerous ice cracks noted.
	26	20.5	52			No new ice cracks noted.
	30					Ice on Camden Bay and the Beaufort Sea safe for vehicular traffic.
Nov	2	24.0	61			
	9	28.5	72			
	16	33.0	84	0.5	1	Ice surface obscured.
	23	35.0	89	0.5	1	
	30	40.0	102			Strong winds removed snow cover.
Dec	7	44.0	112			
	14	48.0	122			
	21	51.5	131			
	28	58.0	147			40-knot wind caused 7/8 of the lake to be free of a snow cover.
1975						
Jan	4	59.0	150			
	11	63.0	160			
	18					No ice measurement, station short of personnel.
	25	68.5	174			Strong wind has kept the lake free of snow. Additional ice cracks formed during the past two weeks.
Feb	1	71.0	180			
	8	72.0	183			55-knot-wind swept the lake surface free of snow.
	15	75.0	191			Numerous cracks noted.
	21					2 in. of new snowfall.
	22	77.0	196	2.0	5	
Mar	1	80.0	203			Strong winds caused 1/3 of lake to be covered with drifts with remainder free of snow.
	4					3/4 of lake now covered with 1-in. of new snow.
	8	81.5	207			
	15	82.0	208			
	22	82.0	208			
	30	83.0	211			65-70 knot wind removed most of the snow cover. 23 in. of water observed under the ice at the measuring point.
Apr	5	83.0	211			
	11					1 in. of new snow fell.
	12	83.0	211	1.0	3	
	16					1 in. more new snowfall.
	19	83.5	212	2.0	5	Maximum ice thickness recorded but records for

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						May are missing.
May	20					Ice on Camden Bay now unsafe for D-6 dozer.
	30					Ice unsafe for use by 5-ton water truck. Ice on Camden Bay and the Beaufort Sea safe for vehicular traffic.
Jun	10					Ice on the Beaufort Sea now unsafe for vehicular use.
	12	80.0	203			4 in. of candled ice with 2 ft of firm ice near the bottom. A few melt ponds on the edge of the ice due to melt runoff from the tundra.
	15					First ice movement observed on Camden Bay.
	21	78.0	198			12 in. of candled ice, and 6 in. of firm ice 1 ft from the bottom. Extensive melt ponds along the shoreline, some are 3 ft deep.
	23					Ice on the Beaufort Sea now unsafe to walk on.
	28	66.0	168			1 ft of candled ice, and entire ice sheet is waterlogged, with extensive melting along the lake edge.
Jul	5	39.0	99			Numerous old cracks and melt ponds cover the ice sheet. A 50- to 100-ft band of water surrounds the lake edge. Ice is getting rotted with 1 ft of candled ice on top. Boat used to get to measuring site.
	8					Ice unsafe to walk on.
	13					Boating began on Camden Bay. First ice movement on the Beaufort Sea. Ice moved out about 1/2 mile.
	25					Boating on the Beaufort Sea commenced.
Bethel (Alaska):		**Measurements made on Kuskokwim River near the Fisherman Cooperative store, 200 yd from the north shore.**				
1974						
Oct	12					First sign of ice flowing in the river.
	13					Heavy ice flow in the late afternoon.
	15					River almost frozen over.
	17					River frozen over, except for a large open area near the old N.C. store and Standard Oil Building.
	20					River still open near the old N.C. store.
	25					People walking on the ice, and ice sheet is covered with a thin film of water.
	30					A small bush plane landed on the river ice. The river ice surface is smooth in front of Bethel with only rough ice on the south shore due to tidal action.
Nov	3	9.5	24	0.5	1	
	10					Water overflow too excessive, unable to make an

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						observation. One snow machine went through the ice surface water due to heavy rainfall.
	11					Water still covers the ice sheet.
	17	13.0	33	2.0	5	Ice is strong enough to walk on, and for use by snow machines.
	19					First car drove on the ice.
	24	15.5	39	1.0	3	
Dec	1	21.0	53	1.0	3	
	8	24.0	61	1.0	3	
	15	27.5	70	1.0	3	
	22	30.0	76	4.0	10	
	29	32.5	83	1.5	4	Packed snow cover on the ice, ranging in depths of 0 to about 10 in.
1975						
Jan	5	34.0	86	1.5	4	Observed one crack in the ice running perpendicular to the river and about 3/4 in. wide. Snow depth varies from 0 to 8 in.
	12	37.0	94	3.0	8	
	19	38.0	97	2.5	6	
	26	40.0	102	5.5	14	Snow depth varies from 3 to about 8 in.
Feb	2	40.5	103	7.0	18	
	9	40.0	102	7.0	18	
	16	42.0	107	8.0	20	
	23	44.0	112	10.0	25	Snow depth varies from 6 to 12 in.
Mar	2	44.5	113	8.0	20	
	9	45.0	114	9.0	23	Some water in overflow areas.
	16	45.5	116	10.5	27	Small snow drift area over the measurement site.
	23	47.0	119	10.5	27	
	29					Overflow areas are filled with water. Snow cover is packed but dry.
	30	48.5	123	11.0	28	
Apr	6	48.5	123	13.0	33	
	13					Overflow too excessive, unable to make an observation.
	20	49.0	124	11.0	28	Snow cover was soft and contained considerable water. Depth varied between 6 and 12 in.
	27	50.5	128	11.0	28	Maximum ice observed. Ice starting to crystallize and top 15 in. was soft. At few places on the river, water existed between the snow and ice.
May	4	49.0	124			Ice measurement site had 5 in. of slush and water on surface, but the ice sheet was firm. At another location the ice was 54 in. thick with 4 in. slush and 38 in. of soft or rotted ice. There is an average of 4 in. slush and water on the river.
	5					Last cars on the river.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	8					Ice is turning dark.
	10					Last snow machines on the river.
	11	45.0	114			8 in. of crystal ice and 2 in. of soft ice at test site. The other site had 45.5 in. of ice, with 8 in. crystal ice and 2 ft soft ice. Average of 6 to 12 in. crystal ice on the river.
	14					Last plane left the river.
	17					Ice sheet moved about 2 ft. Anchor ice broke up, and water noted on the ice surface on the opposite channel near the shoreline.
	18					Ice still moving.
	19					River rising, ice moving. River in full flow.
	21					Water still rising, full flow during most of the day.
	22					River crested at 13.4 ft. Very little ice flow.
	23					River is clear for shipping with very little ice flow.
Bettles (Alaska):		**Measurements made on Koyukuk River at Evansville.**				
1974						
Sep	26					First snowfall.
Oct	1					First ice flow in river.
	2					Last day for boating.
	11					River froze over.
	12					River ice about 3/4 in. thick.
	13					Ice safe to walk on.
	19	9.0	23			Ice safe for vehicles. Surface slightly rough.
	26	15.0	38			Only 0.5 in. snow in the area.
Nov	2	20.0	51	0.5	1	Surface is now smooth.
	9	21.0	53	3.0	8	
	16	21.0	53	8.0	20	Snow depth uneven due to wind.
	23	22.0	56	9.0	23	
	30	24.0	61	10.0	25	Some snowdrifts.
Dec	7	26.0	66	10.0	25	
	14	26.0	66	10.0	25	
	21	27.0	69	12.0	30	
	28	28.0	71	12.0	30	Snow surface uneven during December.
1975						
Jan	4	29.0	74	11.0	28	
	11	30.0	76	11.0	28	
	18	32.0	81	14.0	36	
	25	33.0	84	15.0	38	Snow surface uneven during January.
Feb	1	33.0	84	16.0	41	
	8	33.0	84	16.0	41	
	15	33.0	84	16.0	41	

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	22	34.0	86	18.0	46	
Mar	1	33.0	84	18.0	46	
	8	34.0	86	18.0	46	
	15	34.0	86	17.0	43	Surface smooth.
	22					No measurement, observer was away.
	29	35.0	89	17.0	43	
Apr	5	35.0	89	17.0	43	
	12	35.0	89	17.0	43	
	19	35.0	89	18.0	46	
	26	36.0	91	17.0	43	Maximum ice thickness observed. Surface smooth. No ice cracks noted from 12 Oct 1974 to 26 Apr 1975.
May	3	36.0	91	4.0	10	4 in. water and snow on the ice surface.
	10					Ice went out at about 4:00 a.m. on this date.
Big Trout Lake* (ONT):		**Measurements made on Big Trout Lake, 100 yd so. of Dept. of Envir. dock in Bay so. side of Post Isl. Water depth about 7-8 ft.**				
1974						
Oct	16					Freeze-up occurred on both front and back bays.
	17					Pedestrian traffic on ice commenced.
	18	3.0	8			No snow cover, surface smooth, no ice cracks noted.
	25					Ice considered unsafe after some thawing.
Nov	1	5.5	14			Main part of the lake is still ice-free. Areas of open water in front and back bays.
	8					Ice considered unsafe.
	15	7.5	19	3.0	8	Total freeze-up observed on this date.
1975						
Apr	4	39.0	99	9.0	23	
	11	39.5	100	8.0	20	
	18	41.5	105	4.0	10	Maximum ice thickness observed. Snow cover mostly water and slush.
	25	39.0	99			Ice sheet quite soft.
May	2	34.5	88			
	9	28.0	71			Ice sheet very soft and wet. Surface smooth and no ice cracks noted from 18 Oct 1974 to 9 May 1975.
	16					Ice measurements ended due to wide shore lead and unsafe ice conditions.
	26					Bays in area around island are now ice free.
Jun	5					Main lake now ice free.
Botwood* (NFLD):		**Measurements made about halfway on a straight line between Killick Point and Mill Point. (Probably on an inward extension of Little Burnt Bay - Authors)**				

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1974						
Dec	21					Freeze-up occurred during the third week in December.
1975						
Jan	31					A channel about 50 ft has been cut from north to south across the harbor.
Feb	28					An 8 to 10 in. cover of snow during the month has prevented ice thickness increase.
Mar	7	18.0	46	8.0	20	
	14	20.0	51	6.0	15	
	21	24.0	61	3.0	8	Maximum ice thickness observed.
	28	17.0	43	1.0	3	Observer notes that there was 17 in. of actual ice and 4 in. of water with 1 in. crust. This was caused by several days of mild weather and then turning cold.
Apr	4	15.0	38			4 in. of wet snow. Some water on the surface.
	12	10.0	25			Surface smooth, no ice cracks all winter.
	18					Ice broke up in main part of the harbor leaving open water. Some ice still left in parts of the harbor until the end of April.
Brochet* (MAN):		**Measurements made on Brochet Bay of Reindeer Lake about 2000 ft from the R.C. Mission dock, midway between the shore and an island offshore.**				
1974						
Oct	19					Freeze-up recorded on this date. Breakup last spring occurred on 31 May 1974 and lake was clear of ice on 2 June 1974.
1975						
Mar	4	34.5	88	12.0	30	
	11	35.0	89	13.0	33	
	18	35.0	89	13.0	33	
	25	35.0	89	13.0	33	
Apr	1	35.5	90	10.0	25	
	8	36.0	91	10.0	25	
	15	35.0	89	12.0	30	
	22	36.0	91	4.0	10	Maximum ice observed on 8 and 22 April.
	29	31.0	79	2.0	5	
May	6	27.0	69			
	13	24.0	61			
	26					Breakup estimated to occur between 15 and 26 May. Surface lightly ridged, few ice cracks noted through the winter.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Cambridge Bay* (N.W.T.)		**Measurements made on the Bay 100 yd SSE of the townsite dock.**				
1974						
Oct	27	20.0	51	1.0	3	No other information available prior to this date (Authors).
1975						
Apr	4	78.0	198	2.0	5	
	11	79.5	202	3.0	8	Maximum ice thickness observed.
	18	79.0	201	5.0	13	
	25	78.5	199	7.0	18	
May	2	79.0	201	3.0	8	
	9	77.0	196	2.0	5	
	16	76.0	193	2.0	5	
	23	77.0	196	1.0	3	
	30	76.0	193	2.0	5	
Jun	30					Surface smooth, few to no ice cracks noted throughout the winter.
Cape Dorset* (N.W.T)		**Measurements made on Cape Dorset Harbor 1500 ft due north of the station.**				
1974						
Nov	15					Observer notes that the ice was too thin to walk on during 1, 8 and 15 November.
	22	17.0	43	1.0	3	Ice may have been 17 in. thick prior to this date, but too rough (i.e., uneven) for safely walk on.
	29	18.0	46	5.0	13	Ice now safe to walk on.
Dec	13					Few ice cracks noted between 22 Nov and 13 Dec.
1975						
Mar	14	53.0	135	10.0	25	
	31	49.5	126	17.0	43	
Apr	4	61.0	155	7.0	18	The large changes in ice thickness may be due to the fact that no measurements were made on 21 and 28 March, and a different selected site with a deeper snow cover (on 31 March) showed a reduced ice growth (authors).
	11	60.0	152	9.0	23	
	18	53.0	135	11.0	28	
	25	52.0	132	9.0	23	
	30	68.0	173	7.0	18	This is the maximum ice thickness reported by the observer. The authors, however, view it with suspicion. It may have been 58 in. instead, or taken at an unrepresentative site.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
May	2	61.0	155	7.0	18	
	9	57.0	145	4.0	10	
	16	55.5	141	5.0	13	
	23	54.0	137	5.0	13	
	30	48.0	122	3.0	8	
Jun	6	45.0	114	3.0	8	
	13	43.0	109	1.0	3	Surface rough, and no ice cracks noted from 20 Dec 1974 to 13 June 1975.
	30					Bay became free of ice between 20 and 30 June 1975.

Cape Parry* (N.W.T.) Measurements made on no. shore of Gillet Bay on Amundsen Gulf, about 1-1/2 mi. so. of met. sta. and 300 yd from shore. Coordinates are 70 deg 10' N, 124 deg 41'

1974						
Oct	12	3.0	8	2.0	5	No other information available prior to this date (Authors).
Nov	1					Surface smooth, no ice cracks to date.
	24					N.R.C. camp located in Balaena Bay, 10 mi. SW of the meteorological station, reports ice thickness of 21 in., and 6-in. snow cover.
1975						
Jan	12	38.0	97	10.0	25	Ice measurement on this date was estimated; weather too extremely cold to make an on-site observation.
Feb	21	48.5	123	12.0	30	
	28	51.0	130	12.0	30	Ice values at the selected site have been inconsistent this winter. Ice thicknesses at 2 spots NE of the site differ by 2 in., with a 2-in. deeper snow cover at each spot. Both of these spots are on the same side of the tidal crack and are within 25 ft of the selected site.
Apr	4	58.0	147	12.0	30	
	11	60.5	154	12.0	30	
	19	59.0	150	13.0	33	
	25	61.5	156	16.0	41	
May	2	60.5	154	13.0	33	
	9	60.0	152	12.0	30	Ice soft through the full depth of the ice sheet.
	16	61.5	156	12.0	30	
	23	57.5	146	12.0	30	
	29	63.5	161	12.0	30	Observer notes that at 100 ft SSE of the observation point the ice thickness was 74 in. with a 4-in. snow cover.
Jun	6	66.0	168	7.0	18	Maximum ice thickness observed. A few melt puddles on the ice.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	13	65.5	166			4-in.-deep water puddles on the ice due to snow melt.
	20	55.5	141			
	27	48.5	123			Few puddles remain due to meltholes in ice 34 to 40 in. thick. Surface smooth, few ice cracks noted from 8 Nov 1974 to 27 June 1975.
Jul	4					Shore lead along north shore of Gillet Bay, 20 ft wide. Ice observations ended for the season.
Caraquet (NB):		**Measurements made in Caraquet Bay off shore from the town wharf toward Caraquet Island.**				
1975						
Jan	10	9.0	23			First measurement taken. Bay was frozen only as far as the channel. Open water from there and toward Caraquet Island.
	31	18.0	46	5.0	13	Snowdrifts on the ice surface since 17 Jan.
Feb	21	21.0	53	7.0	18	Snowdrifts on ice surface.
	28	21.0	53	8.0	20	Snow surface now mostly level. Bay now frozen over.
Mar	21	25.0	64	4.0	10	Snow cover now slushy.
Apr	4					Too stormy, no ice measurement taken.
	6	29.0	74	15.0	38	
	11	28.0	71	3.0	8	
	18	32.0	81	2.0	5	Maximum ice thickness observed.
	20					Ice sheet starting to break.
	25					Bay now free of ice.
Cartwright* (NFLD):		**Measurements made in the exact center of Cartwright Harbour of Sandwich Bay (along the Labrador coast) midway between the IGA and MOT docks.**				
1974						
Dec	21	10.0	25	1.0	3	First measurement taken.
1975						
Jan	24	19.5	50	1.0	3	School bus using the harbour for a roadway by this date.
Apr	4	29.0	74	19.0	48	
	11	38.0	97	8.0	20	
	18	30.0	76	15.0	38	
	25	42.0	107	5.0	13	Observer notes that the fluctuations in the ice thickness is due to the freezing and thawing of the slush on the surface. When the ice drill pierces the crusty-slush area as on the 4th and 18th it is then called snow. If the layer requires drilling by the auger then it's considered part of the ice sheet (as

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						on the 11th and 25th). No instructions provide information on how to define the slushy layer that occurs each spring, so the observer calls it ice if it is solid enough to require drilling.
May	2	46.0	117	5.0	13	
	10	46.0	117	2.0	5	Maximum ice thickness observed on 2 and 10 May.
	16	32.0	81	12.0	30	
	23	30.5	77	8.0	20	Surface smooth, no ice cracks noted all winter.
	30					Ice considered unsafe to walk on.
Chalkyitsik (Alaska):		**Measurements made about 100 ft out from the bank of the Black River at approximately 100 yd N of the Episcopal Church.**				
1974						
Oct	2					Date of first ice on the river.
	5	2.5	6			
	6					Ice jamming from the village to upstream
	7					Ice safe to walk on.
	12	3.0	8	3.0	8	Snow machines now in use on the river ice.
	19	3.5	9			Snow depth varies between 2 and 4 in.
	26	5.0	13			Snow depth varies between 4 and 5 in.
Nov	2	6.0	15	6.0	15	
	9	24.0	61	28.0	71	Observer reports ice thickness as "2-F" it is assumed to mean 2 ft thick. It is possible that the river ice is rafted in sections.
	16	26.0	66	36.0	91	
	23	36.0	91	52.0	132	Ice thickness given as "3-F."
	30	40.0	102	50.0	127	Observer reports lots of snow. Snow depths during Nov variable, wind has caused drifts up to 56 in.
Dec	7	42.0	107	48.0	122	
	14	44.0	112	52.0	132	
	21	50.0	127	44.0	112	Snow depths decreasing due to wind effects.
	28	54.0	137	30.0	76	Snow depths continued to decrease. Snow being blown toward the river banks.
1975						
Jan	4	54.0	137	51.0	130	
	11	52.0	132	50.0	127	
	18	51.0	130	42.0	107	Snow depths are quite variable.
	25	54.0	137	40.0	102	Observer notes that ice is thick this year, with lots of snow.
Feb	1	54.0	137	54.0	137	
	8	56.0	142	56.0	142	Additional snowfall recorded. Depth has increased substantially.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	15	56.0	142	54.0	137	
	22	56.0	142	52.0	132	
Mar	1	56.0	142	48.0	122	
	8	56.0	142	54.0	137	
	15	54.0	137	56.0	142	Snow depths continually changing due to the sporatic winds.
	22	54.0	137	56.0	142	
	29	56.0	142	54.0	137	Maximum ice thickness (56 in.) observed several times in Feb and Mar.
Apr	5	54.0	137	56.0	142	
	12	54.0	137	42.0	107	
	19	48.0	122	32.0	81	
	26	45.0	114	16.0	41	Snow melting fast, some slush on the ice. Surface was reported smooth and numerous ice cracks noted throughout the season, but the observer states no ice cracks seen on this date.
May	5					Ice unsafe for vehicles.
	8					Ice starting to move, unsafe to walk on.
	11					River safe for boating.
	12					River clear of ice.
Chandalar Lake (Alaska):		**Measurements made approximately 200 ft from shore in Chandalar Lake in front of the main camp.**				
1974						
Oct	18					Slush ice at about 3 ft from shore in the AM, gone by PM.
	19					Ice cover from shore to shore in AM. Flight over the lake indicated that the south end of the lake froze over 2 days earlier, and the north end has about 3 places with open water about 500 ft by 2000 ft in size.
	20	2.5	6			Open portions of lake froze over.
	26	8.5	22			
Nov	2	12.0	30	1.0	3	
	9	14.0	36	3.0	8	
	16	16.0	41	8.0	20	
	23	18.0	46	9.0	23	
	30	19.0	48	8.0	20	
Dec	7	19.0	48	7.0	18	
	14	22.5	57	8.0	20	
	21	24.0	61	9.5	24	
	28	24.0	61	11.0	28	
1975						

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Jan	4	25.0	64	11.0	28	
	11	26.0	66	11.0	28	
	18	30.0	76	11.0	28	
	25	30.0	76	12.0	30	
Feb	1	32.0	81	11.5	29	
	8	31.0	79	12.0	30	
	15	33.0	84	9.0	23	
	22	36.0	91	12.0	30	
Mar	1	37.0	94	11.0	28	
	8	37.0	94	12.0	30	
	15	37.0	94	12.0	30	
	22	40.0	102	13.0	33	
	29	39.0	99	13.0	33	
Apr	5	38.0	97	14.0	36	
	12	37.0	94	15.5	39	
	19	42.0	107	13.5	34	Maximum ice thickness observed.
	26	40.0	102	13.0	33	
May	3	39.0	99	7.0	18	First overflow of water on lake from small streams. Surface smooth, no ice cracks noted on the river from 20 Oct 1974 to 3 May 1975.
	10	37.0	94			Surface consists of 0.5 in. water and 1 in. slush. Surface smooth with a 0.5 in. wide and 3 in. deep crack around the lake, 5 to 10 ft from shore. Some visible cracks out on the lake, but show no separation.
	17					Ice now rotted and water is backed up to about 25 ft. Lake unsafe to walk on.
	24					No change in ice condition.
	31					Ice sheet has open leads, and shifting from up on shore to about 50 ft back from shore.
Jun	14					Wind has blown all the ice out of the lake.
Chesterfield Inlet* (N.W.T.):		**Measurements made on Spurrel Inlet, Hudson Bay, approximately 2,000 ft east of the Ministry of Transport building.**				
1974						
Oct	10					Ice forming but continually broken up by tide and wind action from this date onward.
Nov	9					Inlet completely frozen over.
	29	21.0	53	2.0	5	Surface lightly ridged, no ice cracks noted.
Dec	20	30.5	77	3.0	8	Surface lightly ridged, few ice cracks noted from 7 to 20 Dec.
1975						
Apr	11	89.0	226	1.0	3	This value of 89 in. of ice thickness was recorded

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						in the 1975 Environment Canada Ice Thickness Report (Ice 1-75). The authors believe the value to be questionable or at least not representative because weekly values before and after this date were 72 and 74 in. The snow depth on this date was only 1 in., so it may be anomaly.
	18	74.0	188	4.0	10	
	25	69.0	175	6.0	15	
May	2	78.0	198	3.0	8	Unless the value of 89 in. is accepted, this value (78 in.) is the maximum ice thickness observed. Few ice cracks observed.
	9	74.5	189			
	17	75.0	191			
	23	71.0	180			
	30	67.0	170			
Jun	6	67.0	170			
	13	55.0	140			Large shore leads and ice breaking up, no further measurements taken. Surface lightly ridged throughout the winter, and numerous ice cracks noted from 9 May to 13 June 1975.
Churchill* (MAN):		**Measurements made in the Churchill Harbour turning basin.**				
1974						
Dec	13	22.0	56	0.5	1	First ice observation received for the season.
	27					No ice reports received on this date, employees given holiday time.
1975						
Jan	3					No reports, more employee holiday time.
	24	35.0	89	10.0	25	Drifted snow cover.
	31	40.0	102	13.0	33	Few leads reported by pilots just north of Churchill.
Feb	7					No reports received, reason unknown.
	24	46.5	118	14.0	36	No leads reported, but conditions over the bay remain unchanged.
Mar	31					No reports received during March, personnel waiting for new equipment. No ice cracks reported from13 Dec 1974 to 24 Feb 1975.
Apr	11	63.0	160	1.0	3	Maximum ice thickness observed. Surface smooth, few ice cracks reported.
	21	62.0	157	12.0	30	Ice is firm, some bare spots on the surface noted, but no ice cracks observed.
May	9	57.0	145			Last ice thickness observation. Ice sheet is too difficult to get out on. Surface ice crystallizing and a few ice cracks noted. Ice breakup occurred

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						during the period from 9 May to 19 July 1975.
Clyde* (N.W.T.):		**Measurements made on Patricia Bay, 1000 ft from shore in front of the station's radio building.**				
1974						
Nov	8	11.0	28			Smooth ice surface, no snow cover, some ice cracks.
	22	17.0	43	2.0	5	No ice cracks observed on 16 and 22 Nov.
	30	23.0	58	2.0	5	Surface moderately rough due to a few pressure ridges. Ice less thick around an iceberg that remained caught in the bay. Ice pressure is mainly noted on the north shore of the bay with pile-ups (accumulations) of 2 to 3 ft in thickness. No surface leads noted.
Dec	22	30.0	76	5.0	13	Surface smooth, no ice cracks from 7 to 22 Dec.
	30	31.0	79	4.0	10	Surface smooth, few ice cracks.
1975						
Feb	22	55.0	140	7.0	18	Surface smooth, no ice cracks from 7 to 22 Feb.
Mar	28	61.0	155	5.0	13	Surface lightly rafted, no ice cracks observed from 7 Feb to 28 Mar.
Apr	25	60.0	152	4.0	10	Surface smooth, few ice cracks from 4 to 25 Apr.
May	23	59.0	150	10.0	25	Surface smooth, numerous ice cracks from 2 to 23 May.
Jun	1	62.5	159	2.0	5	
	8	60.0	152			
	14	64.0	163			Maximum ice thickness observed.
	22	63.0	160			
	29	62.0	157			Surface lightly rafted, numerous ice cracks from 1 to 29 June.
Jul	6					Impossible to measure ice thickness. Numerous leads from 4 to 8 ft wide. Open water 20 ft wide in front of the station.
Coppermine* (N.W.T.):		**Measurements made at the mouth of the Coppermine River, 150 yd north of the Ministry of Transport boathouse.**				
1974						
Oct	18	11.0	28	1.0	3	First ice thickness report for the season.
Dec	27	35.0	89	8.0	20	Surface lightly rafted and a few ice cracks observed from 27 Oct to 27 Dec 1974.
1975						
Feb	28	48.0	122	2.0	5	Surface smooth and a few ice cracks observed from 5 Jan to 28 Feb 1975.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	7	53.0	135	8.0	20	
	14	55.0	140	8.0	20	
	20	55.0	140	8.0	20	
	24	58.0	147	10.0	25	Maximum ice thickness observed.
May	2	57.0	145	8.0	20	
	12	52.0	132	1.0	3	
	16	51.0	130			Last ice thickness report for the season. Surface smooth to lightly ridged and few to no ice cracks noted from 7 Mar to 16 May 1975.
Jul	20					Ice breakup lasted from 15 May to 20 Jul 1975.
Coral Harbour*(N.W.T.):		**Measurements made on Munn Bay 300 yd southwest of beach at SNAFU.**				
1974						
Oct	31					Munn Bay completely frozen over.
Nov	8	10.0	25	1.0	3	Ice covered with soft wet slush.
	15	14.0	36	1.0	3	Large lead in South Bay, 2 miles from the observation site, noted on 8 and 15 Nov.
	22	16.5	42	1.5	4	South Bay completely ice covered.
	29	19.0	48	3.0	8	Number of small leads noted in the distance in South Bay.
Dec	6	23.0	58	4.0	10	South Bay leads now frozen over.
1975						
Jan	18					Record extreme minimum air temperature of -63 deg F recorded at midnight.
Feb	28					Surface smooth, no ice cracks observed from 8 Nov 1974 to 28 Feb 1975.
Apr	18	70.0	178	4.0	10	
	25	71.0	180	4.0	10	
May	2	71.0	180	4.0	10	
	9	72.0	183	1.0	3	
	16	72.0	183	1.0	3	
	23	72.0	183	1.0	3	Maximum ice thickness observed on 9, 16 and 23 May.
	30	68.0	173			
Jun	6	63.0	160			Water observed on the ice on 30 May and 6 June.
	13	49.0	124			Tide cracks up to 6 ft wide, large pools of water along the shore.
	20	25.5	65			Areas of open water along shore up to 1 mi wide. Tide cracks up to 8 ft wide. Ice thickness value is an average of 4 measurements made in a line from 100 ft to 600 ft from shore at a point 1/2 mile south of SNAFU. Surface smooth, and a few ice cracks observed from 2 May to 20 June.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26					Ice out of Munn Bay.
Corner Brook* (NFLD):		**Measurements made on Humbur Arm of the Bay of Islands, 1500 ft off the south shore just east of Church Cove opposite Rood Point on the north shore.**				
1975						
Jan	3					Open water, except for slab ice in patches along the shore.
	10					Thin ice cover from head of Humber Arm as far out as Curling on the south shore and Summerside on the north shore. Ice cakes around the dock area where the Bowater tug broke up the ice cover. Offshore winds are moving the ice.
	17					Ice conditions similar to 10 Jan, with scattered ice cakes as far as Gillams in outer arm.
	24	4.5	11	1.0	3	Ice thickness ranges from thin to 5 in. from head of Humber Arm to Meadows on the north shore to Cooks Brook on the south shore.
	31	6.0	15	2.5	6	Solid ice sheet from head of Humber Arm to Meadows on the north shore and Frenchman's Head on the south shore.
Feb	28	18.0	46	3.0	8	Crusty snow over the ice, with a layer of water between the ice sheet and the snow cover. No ice leads noted, and ice sheet up tight along the shore. Broken and rafted ice at edges of the channels cut by the ice breaker to assist shipping into the Army and around Bowater docks. Area tugs keep the dock sections open or free of solid ice.
Mar	7	19.5	50	6.5	17	
	14	20.0	51	7.0	18	
	21	21.0	53	6.0	15	
	28	21.0	53	8.0	20	Maximum ice thickness observed on 21 and 28 Mar. No ice leads observed, except in navigational channel cut by ice breaker. Ice surface solid and tight to shore all over Humber Arm. Dock area ice kept broken by tugs. Surface smooth from 24 Jan to 28 Mar.
Apr	4	20.0	51	4.0	10	
	11					Ice unsafe for measurement.
Cree Lake* (SASK):		**Measurements made on Cable Bay of Cree Lake 50 yd off the station dock.**				
1974						
Nov	20					Cable Bay frozen.
	28					Lake completely frozen.
	29	5.5	14	1.0	3	Ice sheet includes 1-1/2 to 2 in. slush and water

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						between a top layer of frozen slush.
Dec	6	8.5	22	3.0	8	Ice sheet contains frozen slush and ice but no water layer.
	27	10.5	27	8.0	20	Considerable slush on the surface.
1975						
Feb	28	23.0	58	8.0	20	Ice measuring site being moved to a new location.
Mar	7	23.0	58	9.0	23	New site located approximately 150 yd off the station dock. The previous site had become too packed down from snowmobile and aircraft use.
Apr	4	26.0	66	8.0	20	
	11	27.0	69	5.0	13	
	18	30.0	76	1.0	3	Maximum ice thickness observed.
	25	27.0	69			Trace of snow on the surface. Surface smooth, few ice cracks from 29 Nov 1974 to 25 Apr 1975.
May	2	24.5	62			Poor ice condition, many cracks.
	9					Ice unsafe for measurement. Ice broke up on 19 May.
Eagle (Alaska):		**Measurements made midstream on the Yukon River directly offshore from the "profile gage" used by the staff.**				
1974						
Oct	3					Date of first river ice.
	19					Boating on the river ended.
Nov	17					River ice safe to walk on.
	30					River ice safe for vehicles.
Dec	7	12.0	30	8.0	20	
	14	12.0	30	12.0	30	
	21	15.0	38	14.0	36	
	31	18.0	46	19.0	48	Measurement delayed by 3 days. Unusual amount of overflow observed while snowmobiling along the edge of the river 4 mi. downstream to Boulder Creek.
1975						
Jan	4	18.0	46	20.0	51	Air temperature at river level was -69 deg F.
	11	31.0	79			All snow cover blown off the river ice. Ice thickness consists of 8 in. ice over 4 in. water over 19 in. ice. Air temp. -40 deg F.
	18	31.0	79	2.0	5	Snow cover is hardpack drift. Ice thickness consists of 10 in. ice cover 2 in. water over 19 in. ice. Air temp +11 deg F.
	25	31.0	79	2.0	5	Observer also made measurements at 2 other places for comparison. One, upstream 1/2 mi. in a patch of clear black ice with no snow cover, ice

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						was 24 in. thick. The second, midstream below the island facing Eagle and in front of Eagle Bluff, the ice was 18 in. thick, with 16 in. of hard packed snow drift over it. River water also raised up through drilled hole.
Feb	1	32.0	81	5.0	13	
	8	32.0	81	5.0	13	Maximum ice observed for the season on 1 and 8 Feb 1974.
	15	30.0	76	5.0	13	
	22	26.0	66	5.0	13	Snow cover during Feb was hard packed.
Mar	1	26.0	66	5.0	13	A measurement 40 ft closer to the south bank of the Yukon, ice was 42 in. thick. Ice cover in front of the Eagle native village was smooth and clear of snow and 36 in. thick. An open water area also had recently frozen over.
	8	26.0	66	5.0	13	
	15	26.0	66	5.0	13	Ice thickness 50 ft beyond the usual site was 32 in.
	22	28.0	71	8.0	20	
	29	28.0	71	8.0	20	Surface all season reported as smooth with no ice cracks observed. Snow cover during March was hard packed.
May	1					River ice unsafe for vehicles.
	3					River ice now unsafe to walk on.
	16					River free of ice on this date.
Ennadai Lake* (N.W.T.):		**Measurements made on Ennadai Lake 100 yd from shore on a line formed by the house front door and the flag pole.**				
1974						
Oct	9					Lake froze over.
Nov	1	19.0	48	5.0	13	First ice measurement.
	15	21.0	53	5.0	13	Surface lightly ridged, few ice cracks observed on 1 and 15 Nov.
Dec	27	29.5	75	10.0	25	Surface smooth, few ice cracks observed during the month.
1975						
Apr	4	49.5	126	17.0	43	
	12	50.5	128	16.0	41	
	18	51.0	130	16.0	41	
	25	51.0	130	16.0	41	Surface lightly ridged, few ice cracks observed during Jan, Feb, Mar and Apr.
May	2	51.0	130	4.0	10	Maximum ice observed during 18 and 25 Apr and 2 May. Surface smooth, few ice cracks on 2 May.
	9	45.0	114			No snow cover on ice.
	16	45.0	114	2.0	5	

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	23	45.0	114			Surface slightly rafted, numerous cracks on 9, 16 and 23 May.
	30	40.0	102			Surface slightly ridged. Shore leads extend outward approx. 30 to 40 ft from shore, and the open water runs the entire length of the shoreline. Ice sheet starting to candle and rot.
Jun	6	36.0	91			Shore lead now extends approx. 200 ft from shore.
	13	26.0	66			Ice sheet candled, numerous ice cracks. This last ice observation for the season was taken by using a canoe to get to the ice and a ruler to measure the thickness of ice candles.
	16					A lead developed across the lake approx. 100 ft in width.
	19					Ice sheet moved with strong southerly winds, leaving about a mile stretch of open water in front of the station.
	26					Lake clear of ice.
Eureka* (N.W.T.):		**Measurements made on Slidre Fiord 100 ft due south of the station jetty.**				
1974						
Sep	13					Fiord froze over on this date. Ice coverage went from 10% to 100% in 2 days. There are a few small ice cakes frozen into the ice sheet, but overall the surface was smooth.
	20	6.0	15	2.0	5	First ice thickness measurement, no ice cracks observed
Nov	29	34.5	88	7.0	18	Surface smooth, few ice cracks observed during the month.
1975						
Jan	17	52.0	132	10.0	25	Surface moderately ridged, few ice cracks during 5, 10 and 17 Jan.
	31	55.0	140	11.0	28	Surface smooth, numerous ice cracks during 24 and 31 Jan.
Apr	11	74.0	188	17.0	43	Surface moderately ridged, few ice cracks observed since 7 Feb 1975.
	26	77.5	197	22.0	56	Surface lightly ridged, few ice cracks observed during 19 and 26 Apr.
May	2	78.5	199	22.0	56	
	9	79.0	201	24.0	61	
	16	80.5	204	24.0	61	
	23	81.0	206	23.0	58	
	30	82.0	208	22.0	56	Maximum ice thickness observed. Last measurement for the season.
Jun	2					Ice breakup began on this date.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Fairbanks (Alaska)(Univ. Exp. Sta.):		**Measurements made on Smith Lake, approx. 5.2 km north of the N.W.S. offices at the Fairbanks Inter. Airport.**				
1974						
Sep	30					First ice suddenly appeared on lakes and rivers along with the first snow on this date.
Oct	3					First permanent ice on the Chena River.
	5	0.5	1			Lake surface slushy, no ice cracks.
	8					Chena River ice unsafe to walk on.
	10					Boating on the Chena River ended.
	12	3.0	8			
	19	6.0	15			A water overflow developed inundating most of the snow, with liquid between the layers of ice. Surface smooth, no cracks on the lake.
	26	7.0	18			Trace of snow on the ice. Water between the snow and ice layer has frozen.
Nov	2	8.0	20	2.0	5	
	9	9.5	24	3.0	8	
	16	13.0	33	7.5	19	
	21					Chena River ice safe to walk on.
	23	13.0	33	7.0	18	
	30	13.5	34	9.5	24	No water overflows noted. Surface smooth, no ice cracks since 19 Oct.
Dec	7	14.0	36	10.0	25	Slight water pressure under the ice sheet.
	14	17.5	44	5.5	14	Overflow developed this week. Cover consists of 5.5 in. snow, 1.5 in. ice, 4 in. water and 12 in. ice.
	21	17.0	43	6.0	15	Still some water between the layers of ice.
	28	16.5	42	7.5	19	Top layer of ice is 4 in. thick, then 1.5 in. water above the lower ice sheet.
1975						
Jan	1					The following ice reading was taken on this date by Ted Fathauer on the main channel of the Chena River at the Riverview Trailer Court on Badger Road in Fairbanks, AK, 45 ft from shore. Ice thickness 20.5 in., and snow depth 17.5 in. Surface smooth and one small refrozen ice crack. River channel 5 ft deep. Very little water pressure under the ice.
	4	16.5	42	11.5	29	There is still a liquid layer about 5.5 to 6 in. deep in the ice sheet. Air temperature -50 deg C.
	11	16.0	41	12.0	30	No liquid layer left, but ice below is still "soft," since it doesn't drill like "cold" ice.
	18	18.0	46	10.5	27	

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	25	18.0	46	10.0	25	
Feb	2	18.5	47	16.0	41	
	9	19.0	48	16.0	41	
	16	19.0	48	15.0	38	No water overflow noted.
	23	19.5	50	15.0	38	Surface smooth, no ice cracks noted since 7 Dec 1974.
Mar	1	19.5	50	15.0	38	
	8	19.5	50	15.0	38	
	15	20.0	51	14.0	36	
	22	21.0	53	14.0	36	
	27					Chena River ice unsafe for vehicles.
	29	21.0	53	13.5	34	
Apr	1					Chena River ice unsafe for vehicles.
	5					First movement of Chena River ice.
	6	20.5	52	10.0	25	Lake ice from top-down consists of 10 in. wet snow, 0.5 in. ice, 3.5 in. water, and 20.5 in. of sheet ice.
	12	25.5	65	8.5	22	Maximum ice thickness observed. Cover from top-down consists of 8.5 in. snow, 0.5 in. ice crust, 3.5 in. water and 21.5 in. ice (top of which is soft).
	20	24.5	62	4.5	11	Three small layers of water in the upper 12 in. of ice.
	27	24.0	61			Several layers of water in the ice. Surface smooth, no ice cracks since 8 Mar. Last observation received for the season.
May	1					Boating began on the Chena River.
	5					Chena River free of ice.
Fort Chimo* (QUE):		**Measurements made on Steward Lake, approx. 5 mi. NW of Station. It's the largest "still" body of water in vicinity and used by ski planes in winter.**				
1974						
Oct	15					Lake froze over, but it was unsafe to venture on the ice.
	15					Lake froze over, but it was unsafe to venture on the ice.
	25	8.0	20			First ice measurement.
	25	8.0	20			First ice measurement.
Nov	22	15.5	39			Surface smooth, few ice cracks since 29 Oct. Trace of snow on the ice.
	22	15.5	39			Surface smooth, few ice cracks since 29 Oct. Trace of snow on the ice.
Dec	27	24.0	61	2.0	5	Surface smooth, few ice cracks since 29 Nov.
	27	24.0	61	2.0	5	Surface smooth, few ice cracks since 29 Nov.
1975						

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Feb	21					No ice measurement due to unsuitable weather over several days.
	21					No ice measurement due to unsuitable weather over several days.
Mar	7	49.0	124	7.0	18	Surface smooth, no ice cracks since 7 Feb.
	7	49.0	124	7.0	18	Surface smooth, no ice cracks since 7 Feb.
	14	56.0	142	3.0	8	Surface lightly rafted, few ice cracks noted.
	14	56.0	142	3.0	8	Surface lightly rafted, few ice cracks noted.
Apr	18	56.0	142	10.0	25	Surface smooth, no ice cracks noted since 21 Mar.
	18	56.0	142	10.0	25	Surface smooth, no ice cracks noted since 21 Mar.
	25	55.5	141	8.0	20	Surface moderately rafted.
	25	55.5	141	8.0	20	Surface moderately rafted.
May	2	60.0	152	8.0	20	Maximum ice thickness observed.
	2	60.0	152	8.0	20	Maximum ice thickness observed.
	10	56.5	144	2.0	5	Surface smooth, no ice cracks noted on 2 and 10 May.
	10	56.5	144	2.0	5	Surface smooth, no ice cracks noted on 2 and 10 May.
	16	58.0	147	1.0	3	Surface lightly rafted.
	16	58.0	147	1.0	3	Surface lightly rafted.
	23	56.0	142	1.0	3	
	23	56.0	142	1.0	3	
	30	48.0	122			Ice thickness visually estimated. Shore lead developed approx. 20 ft wide.
	30	48.0	122			Ice thickness visually estimated. Shore lead developed approx. 20 ft wide.
Jun	6	30.0	76			Lake ice deteriorating, crystallized and honeycombed.
	6	30.0	76			Lake ice deteriorating, crystallized and honeycombed.
	14	20.0	51			Shore lead along the southern shore of the lake and ice thickness visually estimated on 6 and 14 June.
	14	20.0	51			Shore lead along the southern shore of the lake and ice thickness visually estimated on 6 and 14 June.
	21					Lake became free of ice between 14 and 21 June.
	21					Lake became free of ice between 14 and 21 June.
Fort Chipewyan* (ALTA):						**Measurements made in the channel of Lake Athabasca 200 yd south of the government dock.**
1974						
Nov	8	2.0	5			First observation for the season. Numerous leads, the largest is approx. 1-2 mi. long, and 300-400 yd

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						wide.
	15	2.0	5			Ice thicknesses on 8 and 15 were estimated.
	17					Strong winds on 16 and 17 created moderate rafting approx. 100 yds from the north shore.
	20					Leads remained open until 19-20 Nov when all visible portions of the lake, including the leads, froze over.
	22	4.5	11			First ice thickness measurement taken in the channel.
	29	8.0	20	1.0	3	Leads again appeared after a 3 in. snowfall. 3 leads were by the islands approx. 1 mi. east and the 4th on the west side of English Island, approx. 200 yd long and 100 yd wide.
	30					Aircraft report notes that the lake was entirely frozen except for the above stated leads and a few large cracks and a minor leads toward the middle of the lake.
Dec	6	9.5	24	2.0	5	Surface lightly ridged and numerous ice cracks reported since 8 Nov.
	14					A C-185 aircraft pilot reported no leads. Lake completely frozen over.
1975						
Jan	3					Two leads opened in the channel by English Island on the SE side. These leads were approx. 150 by 25 ft and 50 by 10 ft.
	17	21.0	53	4.0	10	Only one lead remains approx. 150 by 50 ft.
	24	25.5	65	4.0	10	Top 5-10 in. of ice is very poor. A Catapiller working approx. 300 yd offshore broke through the ice. Ice thickness at that location was 25-30 in. but since the top 10 in. of ice "crumbles like snow grains" the area is very dangerous for heavy equipment. The one open lead is now only 75 by 25 ft in size.
	29					The open lead is now completely frozen over.
Feb	7	33.5	85	3.0	8	Surface lightly ridged and few to numerous ice cracks observed on 31 Jan and 7 Feb.
	28	41.0	104	2.0	5	Surface lightly rafted or ridged with a few ice cracks but no leads since 14 Feb. Local trappers indicate very little overflow on the lake this year. A few pressure ridges have formed, mostly on the NE side of the lake. The closest to Fort Chipewyan is approx. 30 mi. ESE and extends toward Uranium City. Some ridges are 8 to 10 ft high, and in places cannot be crossed due to open water between the ridges.
Mar	14	43.0	109	2.0	5	Maximum ice thickness observed.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	21	42.0	107	3.0	8	
	28	41.0	104	2.0	5	
Apr	4	41.0	104	2.0	5	
	11	41.0	104	1.0	3	
	18	39.0	99			
	25	29.0	74			Breakup of lake ice sheet occurred during 18 Apr to 10 May.
Fort George* (QUE):		**Measurements made in the middle of the south channel of La Grande River, 4000 ft SE from Fort George.**				
1974						
Nov	14					Ice on the river began to form on this date.
Dec	7					River ice began to become safe for a measurement during this past week.
	12	14.5	37	4.0	10	Surface smooth, no ice cracks observed.
	21	13.5	34	5.0	13	Surface smooth, some ice cracks observed. No further observations received for the season.
Fort Yukon (Alaska):		**Measurements made on Hospital Lake.**				
1974						
Sep	25					First ice formed on the Porcupine and Sucker Rivers, and boating on the Porcupine River ended.
	29					Boating on the Sucker River ended.
Oct	2					Ice on Sucker River became safe to walk on. Ice formed on the Yukon River, and boating on the river ended.
	5					Ice on the Sucker River became safe for vehicle use.
	10					Ice on the Porcupine and Yukon Rivers became safe to walk on and for vehicle travel; i.e. snowmobiles on the Yukon.
Nov	17	15.0	38	9.5	24	First ice thickness measurement on Hospital Lake.
Dec	8	22.0	56	6.0	15	Surface "rippled" on 17 Nov and 8 Dec.
	15	21.0	53	11.0	28	Surface smooth.
	31					Previous 3 Sundays were very cold.
1975						
Jan	5	27.0	69	11.0	28	
	12	29.0	74	13.0	33	
	19	29.0	74	7.0	18	Note: Observer reported an ice thickness of 39 in. Unless some of the snow cover was converted to a hardened snow-ice cover, this value seemed unlikely because the next value (on 4 Feb) was 26

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						in. Consequently, the authors have listed 29 in. for 19 Jan instead. Surface rippled since 5 Jan.
	26					No ice measurement made due to illness.
Feb	4	26.0	66	13.0	33	
	10	26.0	66	7.0	18	
	16	29.0	74	9.0	23	Surface smooth.
	22	31.0	79	7.0	18	
Mar	2	36.0	91	12.0	30	Surface wavy on 22 Feb and 2 Mar.
	9	36.0	91	7.0	18	
	16	35.0	89	11.0	28	
	23	36.5	93	9.0	23	
	30	41.0	104	15.0	38	Maximum ice thickness reported. However, no further ice measurements were taken on Hospital Lake this season.
May	1					Ice on the Yukon River now unsafe for vehicular traffic.
	9					Yukon River ice now unsafe to walk on.
	17					First movement of ice on the Yukon River observed.
	21					Boating on the Yukon river has started.
	25					Yukon River is clear of ice.
Frobisher Bay* (N.W.T.):		**Measurements made at Koojessee Inlet 200 yd from the Ministry of Transport causeway.**				
1974						
Oct	4					A thin layer of ice formed on this date.
Nov	21					Inlet is now entirely frozen over.
	29	12.0	30	1.0	3	First ice thickness measurement. Surface smooth and a few scattered ice cracks.
1975						
May	2	68.5	174	9.0	23	
	9	69.5	177	16.0	41	
	16	68.5	174	10.0	25	
	24	71.0	180	8.0	20	
	30	72.0	183	3.0	8	Maximum ice thickness observed.
Jun	6	68.0	173	1.0	3	Surface smooth, and a few ice cracks observed since 6 Dec 1974.
	13	55.5	141	1.0	3	
	20	41.0	104	1.0	3	Surface smooth, numerous cracks observed on 13 and 20 June.
	27					No further observations due to open water at the site.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Gimli* (MAN):		**Measurements made on Lake Winnipeg, 300 yd east of the breakwater at the end of 4th Street South.**				
1974						
Dec	27	17.5	44			Trace to 1 in. snow. First measurement of the season. No freeze-up information.
1975						
Jan	3	19.5	50			Trace to 1 in. snow, hard packed. Surface smooth, few ice cracks on 27 Dec 1974 and 3 Jan 1975.
	10	21.0	53	4.0	10	New powder snowfall.
	31	29.0	74	4.0	10	Half of the snow cover depth since 17 Jan has been hard packed.
Mar	7	37.0	94	7.0	18	
	14	38.0	97	8.0	20	
	21	34.5	88	5.0	13	Snow cover depth ranged from 4-6 in. and still hard packed.
	28	39.5	100	7.5	19	Maximum ice thickness observed.
Apr	4	37.0	94	7.0	18	Snow depth ranged from 4 to 9 in. since 28 Mar.
	11	35.0	89	6.0	15	Snow cover consists of 1 in. slush and 6 in. hard packed. Surface smooth, and no ice cracks observed since 10 Jan.
	18					Measurements ended due to unsafe ice conditions along the shoreline.
May	15					Ice breakup occurred from 2 to 15 May.
Goose Bay* (NFLD):		**Measurements made on Terrington Basin.**				
1974						
Nov	22					Complete freeze-up on this date but ice is very thin in the eastern half of the basin.
	30	7.0	18	1.0	3	Last ship departed the area on this date. Ice thickness near the shipping lane ranged from 6 to 9 in.
Dec	13	15.0	38	2.0	5	During early part of Dec there was some rafting around the docks and in the channel due to ship departures.
1975						
Apr	4	39.5	100	19.0	48	
	11	39.5	100	16.0	41	
	18	39.0	99	14.0	36	
	25	46.5	118	2.0	5	Surface smooth, no ice cracks observed during Jan, Feb and Mar.
May	2	47.5	121	1.0	3	Maximum ice thickness observed.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9	44.0	112	1.0	3	Surface smooth, few ice cracks noted on 2 and 9 May.
	15					Open water area at Sandy Point.
	16	28.0	71			Surface rough, numerous ice cracks and holes in the ice.
	23					Ice breaking up around edges of the basin.
	31					Basin 7/10 ice covered, numerous cracks and holes throughout the basin.
Jun	4					Ice breakup continued until this date.
Hall Beach* (N.W.T.): Measurements made on Foxe Basin, 100 yd off the Sealift dock.						
1974						
Nov	1	9.5	24	0.5	1	First ice measurement taken at the end of the dock, because ice sheet not yet thick enough to traverse.
	15	20.0	51	1.5	4	Surface smooth, few ice cracks observed during 8 and 15 Nov.
Dec	7	33.0	84	2.0	5	Ice measurement delayed one day due to strong winds, blowing snow, and low visibility.
1975						
Feb	1	57.0	145	2.0	5	Surface smooth, few or no ice cracks observed since 29 Nov.
Apr	6	80.5	204	6.0	15	
	11	79.5	202	3.0	8	
	18	83.0	211	3.0	8	
	28	83.5	212	3.0	8	
May	4	87.0	221	1.0	3	
	10	95.0	241	9.0	23	Authors tend to question this maximum ice thickness observed. However, there is no specific reason not to accept it, since the closest station (Shepard Bay, N.W.T.) reported a maximum value of 88 in. on 10 and 17 May 1975.
	16	86.0	218	6.0	15	
	23	89.5	227	6.0	15	
	30	87.0	221	2.0	5	Surface lightly rafted, few ice cracks during May.
Jun	13	75.0	191			Trace of snow on the ice.
	20	65.0	165			Last observation for the season. Surface smooth, many ice cracks on 13 and 20 June.
Holy Cross (Alaska): Measurements made on Walker Slough of the Yukon River, 3500 ft NE of the weather station and 2500 ft east of the State school building.						
1974						

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Oct	12					First ice noted on Walker Slough.
	16					Ice on Walker Slough safe to walk on.
	20					Ice on Walker Slough safe for snow machine use, and first ice observed on Yukon River.
	28					Ice on the Yukon River safe to walk on.
	30					Ice on the Yukon River safe for snow machine use.
Nov	3	10.0	25	1.5	4	First ice thickness measurement on Walker Slough. Surface smooth.
	10	12.0	30	1.0	3	Air temp. reached -20 deg F this past week. Surface moderately ridged.
	17	13.0	33	0.5	1	Weather became warm, with rain during the week. About 1 in. of water on the ice sheet. Surface lightly ridged. No ice cracks observed during Nov.
1975						
Mar	31					No observations received during Dec 1974 and Jan, Feb and Mar 1975.
Apr	13	50.0	127	19.5	50	First observation available since 17 Nov 1974. Maximum ice thickness observed.
	20	46.0	117	15.0	38	Very warm weather during the past week, 5.5 in. water on top of the ice sheet.
	27	47.0	119	5.0	13	Continued very warm with some cold nights. Observed 5 in. overflow of water on top of main ice sheet with 2 in. ice layer on the water.
May	4	41.0	104			Main ice sheet is 41 in. thick, with 5 in. of water above it and a 2 in. ice layer on top.
	11	36.0	91			36 in. main ice sheet, with 15 in. overflow. Surface moderately ridged and no ice cracks observed since 13 Apr.
	12					Ice on the Yukon River and Walker Slough no longer safe for vehicular traffic.
	13					Ice on the Walker Slough now unsafe to walk on.
	14					Ice on the Yukon River now unsafe to walk on, and first ice movement on Walker Slough noted.
	16					First ice movement observed on the Yukon River.
	18					Ice thickness measurements ended due to excessive water overflow.
	26					Boating started on the Yukon River and Walker Slough.
	27					Yukon River and Walker Slough now free of ice.

Hopedale* (NFLD): Measurements made on Hopedale Harbour approx. on a line from the USAF dock to Ellen Island. Area is used as a runway for small aircraft.

1974

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Dec	6					Hopedale Harbour 75% frozen over.
	13	7.0	18			First ice thickness measurement for the season.
	18					First plane landed with skis on the harbour ice.
	20	11.0	28	1.0	3	
1975						
Jan	10	21.0	53	1.0	3	Surface smooth, no ice cracks since 13 Dec 1974.
	17	23.0	58	1.0	3	Surface lightly ridged, no ice cracks observed.
Feb	28	42.0	107	1.0	3	Surface smooth, no ice cracks since 24 Jan.
Apr	25	52.0	132	5.0	13	Surface lightly ridged, no ice cracks since 7 Mar.
May	2	52.0	132	3.0	8	Surface smooth, no cracks.
	9	53.0	135	2.0	5	Maximum ice thickness observed. 1 in. slush and water on the surface.
	16	48.0	122	1.0	3	5 in. slush and water on the surface.
	23	42.0	107			6 to 8 in. slush and water on the surface.
	30	40.5	103			2 in. slush on the surface. Two small water-filled holes at the USAF dock. Last measurement for the season.
Inoucdjouac* (QUE):		**Measurements made on the Innuksuak River, NE of Hudson Bay Co. dock, 600 ft from west shore, approx. 1/2 mi. from mouth of river.**				
1974						
Nov	20					River froze over on this date.
Dec	13	8.0	20	1.0	3	First ice thickness measurement.
1975						
Mar	28	77.0	196	4.0	10	Surface smooth, no ice cracks observed from 13 Dec 1974 to 28 Mar 1975.
Apr	4	80.0	203	3.0	8	
	11	86.0	218	3.0	8	Maximum ice thickness observed.
	18	81.0	206	2.0	5	
	25	80.0	203	2.0	5	
May	2	72.0	183	2.0	5	
	9	75.0	191	1.0	3	
	16	82.0	208			
	23	74.0	188	1.0	3	Surface smooth, few ice cracks during May.
	30					Unable to make an ice thickness measurement due to excess water along the edges and center of the river.
	31					No further measurements due to hazardous ice conditions.
Jun	8					Ice breakup on the river continued until this date.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Inuvik* (N.W.T.)		**Measurements made on the east branch of the Mackensie River, 80 yd offshore from the old N.T.C.L. dock in town.**				
1974						
Oct	18	7.0	18	2.0	5	First ice thickness measurement
1975						
Mar	28	39.0	99	12.0	30	
Apr	4	42.5	108	12.0	30	
	11	45.0	114	8.0	20	
	18	48.0	122	12.0	30	Maximum ice thickness observed.
	25	46.5	118	12.0	30	
May	2	37.0	94	12.0	30	2 ft of water around the shore, observer finding it difficult to cross to the river ice. Surface smooth, and no ice cracks observed throughout the season.
	9					Water level 2 ft and 5 in. above winter level.
	16					Water level 8 ft and 1 in.
	23					Water level 11 ft and 8 in.
	30					Water level 15 ft and 7 in.
	31					Ice moved out from the river on this date.
Isachsen* (N.W.T.):		**Measurements made on Louise Bay, 1/4 mi. SSE of the station, approx. 75 yd offshore.**				
1974						
Sep	13	7.0	18			First measurement for the season. Trace of snow on the ice.
1975						
Apr	26	84.5	215	16.0	41	
May	9	89.0	226	10.0	25	
	16	87.5	222	17.0	43	
	23	88.0	224	20.0	51	Surface smooth, no ice cracks observed since 13 Sep 1974.
	30	90.0	229	13.0	33	Maximum ice thickness observed. Surface smooth, few ice cracks. Last ice thickness report received.
Aug	23					Widest shore lead observed this week.
Island Lake* (MAN):		**Measurements made on Island Lake at a point 0.3 mi. N of Hudson Bay dock, and 0.6 mile NW of the surface weather station's dock.**				
1974						
Nov	26					Lake became completely frozen over on this date.
Dec	6	11.0	28	3.0	8	First ice thickness measurement.
	27	15.5	39	8.0	20	"Blue ice" observed on the lake all month.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1975						
Jan	10	15.5	39	9.0	23	1 in. partially frozen slush between snow cover and the blue ice sheet.
	24	25.5	65	5.0	13	7 in. slush ice, snow surface is hard packed in drifts on 17 and 24 Jan. Surface smooth, no ice cracks since 6 Dec 1974.
	31	27.5	70	4.0	10	5 to 7 in. slush ice, snow hard packed in drifts.
Feb	28	36.0	91	4.0	10	5 to 7 in. slush ice, snow hard packed in drifts during Feb.
Mar	14	34.0	86	8.0	20	5 in. slush ice, snow hard packed during 7 and 14 Mar.
	21	36.5	93	5.0	13	3 in. slush ice, snow has a 2 in. crust due to warm weather. Surface smooth and few to no ice cracks observed since 31 Jan.
	29	39.0	99	8.0	20	Observation delayed due to blizzard conditions. 3 to 5 in. ice on hard packed snow machine trails. Top portion of new snow cover is soft.
Apr	4	42.0	107	6.0	15	
	11	43.0	109	4.0	10	3 to 5 in. slush ice on 4 and 11 Apr.
	18	43.0	109	2.0	5	Maximum ice thickness observed on 11 and 18 Apr 3-6 in. slush ice, considerable amount of semi-frozen slush on the surface.
	25	39.0	99			A trace of snow on the surface. Ice sheet deteriorating due to warm weather, numerous small "air" holes forming, ice surface poor. Surface smooth, few ice cracks observed since 29 Mar.
May	2	33.5	85			Ice sheet contains 1 to 2 ft of candled ice.
	5					Numerous weak spots and "air" holes, mostly candled ice, ice melting away from the shoreline.
	9					Lake ice sheet considered unsafe, ice survey terminated.
King Salmon (Alaska):						**Measurements made in the main channel of the Naknek River, 125 yd from the USAF boat dock.**
1974						
Oct	15					First ice of the season observed on the river.
Nov	16					Ice running on the river since 2 Nov. 50 to 60 ft of packed (rafted?) ice on each shore. Area has experienced several freezes and subsequent thaws during this fall season.
	23					Ice has now formed from shore to shore, and 2 ridges of ice 1 to 2 ft high have developed, each approx. 50 to 60 ft from shore.
	25					River ice now safe to walk on and for use by snow

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						machines.
	30	11.0	28	2.0	5	All boating on the river ended. Ice on the north (village) shore continues to be approx. 0.5 in. thinner than at other parts of the river. Observer believes difference is due to wastewater being released not far upstream. The "rapids" approx. 6 mi. above the measuring site remains open.
Dec	7	13.0	33	1.5	4	Surface smooth, no ice cracks and snow cover is crusty on 30 Nov and 7 Dec.
	14	14.5	37	4.0	10	Snow cover is crusty.
	21	16.5	42	6.0	15	
	28	20.5	52	9.0	23	Surface is lightly ridged, no ice cracks and snow cover is hard packed on 21 and 28 Dec. Unusually heavy snowfall during Dec, observer thinks the added insulation may result in less river ice. The "rapids" continue to remain open, but river ice now extends to Savanosky Pt.
1975						
Jan	4	20.0	51	9.0	23	Surface smooth, no ice cracks.
	11	23.0	58	9.0	23	Snow cover very crusty on 4 and 11 Jan.
	18	23.5	60	4.0	10	Surface lightly ridged, few ice cracks on 11 and 18 Jan. Snow cover now mushy and watery.
	25	25.0	64			Surface moderately ridged, numerous ice cracks. The weather has changed very much this month, fluctuating between extreme cold and fairly warm. The snow cover completely thawed on the river, and turned into water overflow and ice.
	27					A new 0.5 in. light powder snowfall has occurred.
Feb	1	25.5	65			Surface smooth, few ice cracks, 1 in. packed snow in the area.
	8	27.0	69	4.0	10	Snow cover is light powder.
	15	29.0	74	4.0	10	
	22	31.0	79	4.0	10	Snow cover hard packed, and surface lightly ridged on 15 and 22 Feb. Excessive snowfalls and near record negative air temperatures has resulted in a near average ice accumulation so far. Observer believes the added snow cover completely negates the effects of the cold on the river ice. No new openings observed, and river overflow is less this year.
Mar	1	33.5	85	1.0	3	
	8	36.0	91	1.0	3	Snow cover lightly crusty.
	15	36.0	91			Surface rough, few ice cracks observed on 1, 8, 15 March.
	22	42.0	107			
	29	44.0	112			Surface rough, numerous ice cracks on 22 and 29

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Mar. During the last 3 observations 4 to 6 in. of overflow (freezing water and ice) existed on top of the ice sheet. Observer believes condition is due to tidal fluctuations, and that the 10.5 in. increase in ice this month is due to the abnormally cold air temperatures recorded this month.
Apr	5	44.0	112			Maximum ice thickness observed during 29 Mar and 5 Apr. Few ice cracks.
	10					Ice at Rapids Camp started to rot. Ice deterioration progressed down river at the rate of about 1 mile a day, some days more some less.
	12	38.0	97			Surface moderately ridged on 5 and 12 Apr. This is the last ice measurement using the drill, ice sheet has become too hazardous.
	19	38.0	97			Ice thickness estimated.
	23					Naknek River ice unsafe for use by snow machines. Numerous ice cracks and surface heavily ridged.
						First ice movement observed.
	26					River ice now unsafe to walk on.
	30					Open water slowly progressed downstream until this date, so open water now exists from the Naknek headwaters to its mouth. Boating on the river has begun. Observer believes the break-up on the Naknek River was normal this year.
May	16					The river is now clear of ice.
Koartak (A)* (QUE):		**Measurements made on Diana Bay, about 500 yd NNW of Dept. of Envnmt. water survey shack. Note: in Canadian Reference (ICE 1-75) the other station's ice measuring site is called "Unnammed Lake," which is shown as Koartak "B" in this report.**				
1974						
Nov	28					Ice on Diana Bay is now safe to walk on.
	29	2.0	5			Leads are about 1.5 mi. away from the shore.
Dec	27	25.0	64	1.0	3	Snow cover on 13 and 27 Dec was soft.
1975						
Feb	14					No measurements on 7 and 14 Feb due to equipment problems.
	22	38.5	98	3.0	8	Measurement delayed one day due to blowing snow conditions.
May	2	52.0	132	3.0	8	
	9	52.0	132	2.0	5	
	16	55.0	140	1.0	3	Maximum ice thickness observed.
	23	54.0	137	1.0	3	
	30	53.0	135			

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Jun	6	50.0	127			Surface smooth, few ice cracks observed from 29 Nov 1974 to 6 Jun 1975. Leads on this date appear about 100 ft wide running from W to E.
	14	42.0	107			Surface smooth, numerous ice cracks. Leads now are about 450 ft from W to E, and about 1000 ft running from S to N.
	20					Ice measurement site too dangerous to walk on, measurements ended.
Koartak (B)* (QUE):		**Measurements made on Unnamed Lake about 1/2 mi. SSW of station. Note: in Canadian Ref. (ICE 1-75) Koartak "B" is the other ice measuring site at "Diana Bay" which is shown as Koartak "A" in this report.**				
1974						
Oct	18	8.0	20			First observation for the season. No leads or cracks as yet on the lake. Observer states that the air temperature is still not cold enough to make ice cracks.
Nov	1	11.0	28	1.0	3	Surface smooth, no ice cracks observed on 25 Dec and 1 Nov.
Dec	7	22.0	56	1.0	3	Measurement delayed one day due to blowing snow conditions.
	27	29.0	74	1.0	3	Snow cover is soft.
1975						
Feb	22					Measurement delayed one day due to blowing snow condtions.
Apr	19	58.0	147	3.0	8	
	26	59.0	150	3.0	8	
May	1	61.0	155	2.0	5	
	9	62.0	157	1.0	3	
	16	62.0	157	1.0	3	
	23	62.0	157	1.0	3	Maximum ice thickness observed on 9, 16 and 23 May.
	30	59.0	150			Surface smooth, few ice cracks observed from 8 Nov 1974 to 30 May 1975. Lots of water halfway around the lake shoreline.
Jun	6	55.0	140			Surface smooth, no ice cracks.
	14					Ice sheet melting all around the lake. Conditions unsafe for further measurements.
Kobuk (Alaska):		**Measurements made on the Kobuk River in front of the village.**				
1974						
Oct	1					First ice observed on the Kobuk River.
	2					Boating on the river ended.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	6					River now frozen over.
	11					River is now safe to walk on.
	12	8.0	20			River now safe for vehicular use. First ice thickness measurement.
	19	14.0	36			
	26	17.5	44			
Nov	2	19.5	50			No snow cover on the ice observed from 12 Oct to 2 Nov.
	9	22.0	56	2.0	5	
	16	25.0	64	6.0	15	
	23	26.0	66	6.0	15	
	30	27.5	70	2.5	6	Surface smooth, no ice cracks observed from 12 Oct to 30 Nov.
Dec	7	30.0	76	3.0	8	
	14	32.0	81	2.0	5	
	21	33.5	85	2.0	5	
	28	35.0	89	2.0	5	
1975						
Jan	4	38.0	97	2.0	5	
	11	43.5	110	2.0	5	
	18	45.0	114	6.0	15	
	25	45.5	116	5.5	14	
Feb	1	47.0	119	9.0	23	
	8	48.5	123	8.0	20	
	15	49.0	124	8.0	20	
	22	51.0	130	8.0	20	
Mar	1	50.0	127	12.0	30	Water overflow observed along the shore.
	8	49.5	126	10.0	25	
	15	49.5	126	8.0	20	
	22	49.5	126	10.0	25	
	29	51.0	130	12.0	30	
Apr	5	51.0	130	8.0	20	
	12	51.0	130	6.0	15	
	19	52.0	132	19.0	48	
	26	52.0	132	10.0	25	
May	3	52.0	132	10.0	25	Maximum ice thickness observed on 19 and 26 Apr and 3 May.
	10	48.0	122			Water accumulating on the river ice surface. 2 in. of slush on the ice. Last ice thickness measurement for the season.
	12					River ice unsafe for vehicular traffic.
	13					First movement of the ice. River ice now unsafe to walk on.
	16					Ice sheet started to move out at 7 PM.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	19					Boating commenced on the river.
	21					River free of ice, extremely high flood water recorded.
Kotzebue (Alaska):		**Measurements made on the inner Kotzebue Sound, 50 yd from the shore.**				
1974						
Oct	4					First ice on the Sound observed between 2 and 4 Oct.
	5					Boating on the Sound ended.
	11					Ice sheet now safe to walk on.
	12	3.0	8			Ice now safe for use by a motorbike. First ice thickness measurement of the season.
	19	8.0	20			
	26	11.0	28			
Nov	2	15.0	38			
	9	18.5	47			No cracks on the ice cover from 3 Oct to 9 Nov.
	16	20.5	52	3.5	9	
	23	22.0	56	5.0	13	
	30	24.0	61	5.5	14	
Dec	7	26.0	66	3.5	9	
	14	27.0	69	5.0	13	
	21	29.0	74	5.0	13	
	28	32.0	81	5.0	13	
1975						
Jan	4	34.0	86	5.5	14	
	11	37.0	94	5.5	14	
	18	40.0	102	6.5	17	
	25	41.5	105	5.0	13	
Feb	1	42.5	108	5.0	13	
	8	43.0	109	5.0	13	
	15	44.0	112	5.0	13	
	22	46.0	117	6.0	15	
Mar	1	48.0	122	6.0	15	
	8	48.0	122	6.5	17	
	15	48.5	123	6.5	17	
	22	49.0	124	6.5	17	
	29	50.0	127	7.0	18	
Apr	5	51.0	130	7.0	18	
	12	51.5	131	7.5	19	
	19	52.5	133	8.0	20	
	26	53.0	135	8.5	22	
May	3	53.5	136	8.0	20	
	10	54.0	137	6.0	15	Maximum ice thickness observed.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	17	52.0	132	3.0	8	Last ice thickness measurement. No surface or ice crack data received all season.
	27					Last day snowmobiles were used on the ice.
	29					Ice on the Sound unsafe to walk on.
Jun	1					First ice movement observed.
	5					Boating on the Sound commenced.
	22					Sound now free of ice.
Mankomen Lake (Alaska):		**Measurements made on Mankomen Lake.**				
1974						
Oct	28					First ice observed, boating on the lake ended.
Nov	2	5.0	13			Lake ice safe to walk on, first ice thickness measurement for the season.
	9	7.0	18	1.0	3	
	13					Lake ice now safe for use by aircraft.
	16	10.0	25	4.0	10	Surface smooth, few ice cracks observed. on 2, 9 and 16 Nov.
	23	12.0	30	6.0	15	
	25					First ice on the Chistochina River, boating on the river ended.
	30	13.0	33	8.0	20	
Dec	7	14.0	36	5.0	13	
	14	15.5	39	6.0	15	
	21	17.5	44	4.0	10	
	28	18.0	46	14.0	36	Surface lightly ridged, few ice cracks observed from 23 Nov to 28 Dec.
	29					Ice on the Chistochina River now safe to walk on.
1975						
Jan	4	21.0	53	1.0	3	The large variations in snow depths may be due to the reported snow drift conditions.
	11	27.0	69	1.0	3	
	18	27.0	69	11.0	28	
	25	31.0	79	2.0	5	
Feb	1	31.0	79	6.0	15	
	8	32.0	81	4.0	10	
	15	35.0	89	2.0	5	
	22	35.0	89	2.0	5	
Mar	1	35.0	89	1.0	3	
	8	36.0	91	1.0	3	
	15	37.0	94	2.0	5	
	22	39.0	99	2.0	5	
	29	39.5	100	4.0	10	Surface lightly ridged, numerous ice cracks

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						observed from 4 Jan to 29 Mar.
Apr	5	40.0	102	6.0	15	
	12	40.0	102	5.0	13	
	19	40.0	102	8.0	20	
	26	40.0	102	7.0	18	
May	3	40.0	102	7.0	18	Surface lightly ridged, ice crack conditions unknown due to snow cover.
	10	40.0	102			No snow on the ice, 6 in. water overflow on the ice cover. ice on the Chistochina River unsafe for vehicular use.
	11					Ice on the Chistochina River unsafe to walk on.
	12					First movement of ice on the Chistochina observed.
	13					Boating on the Chistochina commenced.
	14					Chistochina River free of ice.
	17	40.0	102			Maximum ice thickness observed on Mankomen Lake on 5, 12, 19, 26 Apr and 10, 17 May.
	24	38.5	98			Surface lightly ridged, few ice cracks observed on 10, 17 and 24 May. 6 in. snow drifts in areas on 17 and 24 May.
	30					Boating around the edges of Lake Mankomen began. Ice started to break away from the north shore.
	31	30.5	77			Surface lightly ridged, numerous cracks, last ice thickness measurement for the season. Lake ice unsafe for aircraft use.
Jun	14					Lake ice no longer safe for pedestrians.
	26					Lake Mankomen now free of ice.
Matagami* (QUE):		**Measurements made on Bell River, at various distances from shore as noted in the Remarks column, due east of Fecteau Base (49 44'N and 77 38'W).**				
1975						
Jan	3	8.0	20	6.0	15	Measurement made 100 ft due east of the Base.
	24	20.0	51	4.5	11	Measurement made 150 ft due east of the base. No accurate snow depth possible due to numerous snowmobile and airplane tracks.
	31	13.0	33	6.0	15	Measurement made 200 ft due east of the Base. Snow depth variable, snow cover trampled.
Feb	7	18.5	47	6.0	15	Surface smooth, no ice cracks observed from 8 Jan to 7 Feb.
	14	20.5	52	4.0	10	
	21	20.0	51	2.0	5	Measurement made 200 ft from base on 7, 14 and 21 Feb.
	28	19.5	50	5.0	13	No accurate snow depth measurement possible due to snowmobile trails, and truck and airplane

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						tracks.
Apr	4	25.5	65	6.0	15	Surface lightly ridged. No measurement received during March.
	11	29.5	75	1.0	3	Maximum ice thickness observed. Surface heavily ridged.
	18					About 8 in. of water has accumulated on the ice. Measurement not possible.
	24	16.0	41			Ice measurement done by aircraft. Trace of snow, with 10 in. slush.
	25					50 ft shore lead, measurements ended.
	27					First shore lead noted.
	29					Tidal flooding caused water to cover approx. 1/2 of the ice surface.
May	2					Ice began to move in the river. Trace of snow cover, surface ridged with numerous ice cracks.
	6					River became clear of ice.
McGrath (Alaska):		**Measurements made on the Kuskokwim River, 1/2 mile from the weather station.**				
1974						
Sep	27					First ice observed on the Innoka River
	29					First ice observed on the Takotna River.
Oct	2					Boating ended on the Innoka and Takotna Rivers.
	4					Ice formed on the Kuskokwim, and ran steadily for some time with heavy ice 1/2 way across. Water level below average at 5 ft 11 in.
	22					Innoka River ice now safe to walk on.
	23					Kuskokwim River froze over from shore to shore.
	24					Kuskokwim River now safe to walk on, cold one day, mild and cloudy the next day.
	26	4.5	11			Scattered small leads all along the shoreline with open holes visible on ice surface. Boating on the Takotna River ended.
	31					Thick ice floes, 3 to 5 ft in diameter and about 4 ft thick with slush, snow and ice crystals ran through the Kuskokwim during past 3 weeks. Floes were numerous and ran thick 1/2 way across the stream.
Nov	2	8.5	22			No snow cover on the ice.
	9	14.5	37	3.0	8	Snow cover not dense.
	16	15.5	39	1.5	4	2 in. water overflow, snow cover is dense. Earlier numerous small holes and leads about 3 ft wide and 4 ft long now frozen over.
	19					Takotna River ice now safe for use by Jeeps.
	21					Innoka River ice now safe for use by Jeeps.
	23	18.0	46	6.0	15	Snow cover is dense.
	24					Kuskokwim River ice now safe for use by Jeeps.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	30	19.0	48	5.0	13	Snow cover very dense. River water level at 5 ft is 2 ft below average mark. Observer believes this means thicker ice this season.
Dec	7	20.0	51	6.0	15	
	14	21.5	55	6.0	15	
	21	22.0	56	7.0	18	
	28	23.5	60	10.0	25	
1975						
Jan	1					Very cold (-68 deg F) for 3 days and minimum of -40 deg F or colder for 2 weeks (very unusual).
	4	24.0	61	12.0	30	
	11	27.0	69	14.0	36	
	18	28.0	71	15.0	38	
	25	36.0	91	18.0	46	The sudden increase in ice thickness was unexplained.
	31					Observer states that last part of Jan was warm with snow storms, so by the 28th there was 2 ft snow over the ice. Mrs. Ivey (the observer) also states that the ice sheet increased by 2 in. per week during the cold spell, so it is possible that the reading on 18 Jan (28 in.) is in error (possibly 31, 32 or 33 in.) instead (Authors).
Feb	1	34.0	86	22.0	56	Snow cover dense to partly dense, surface lightly to moderately ridged since 23 Nov 1974.
	8	36.0	91	23.0	58	
	15	35.0	89	24.0	61	
	22	34.0	86	25.0	64	No leads, but large cracks along the shoreline observed. Observer notes that ice accumulation has slowed during the past 3 weeks.
Mar	1	35.0	89	25.0	64	Early March was very warm with sun often melting snow surface.
	8	36.0	91	26.0	66	
	15	36.0	91	26.0	66	Maximum ice thickness observed on 8 Feb and 8, 15 March. Cold nights (-30 to -40 deg F) during mid March with light cold winds. Ice thickness did not increase appreciably, observer believes the deep snow cover "might be the cause."
	22	35.0	89	27.0	69	
	29	34.0	86	27.0	69	
Apr	5	31.0	79	28.0	71	
	12	29.0	74	27.0	69	
	19	27.0	69	23.0	58	Snow cover dense, and surface lightly ridged since 8 Feb.
	26	28.0	71	18.0	46	Snow and water overflow on the ice. Last ice thickness measurement for the season.
	30					Ice on the Kuskokwim River unsafe for use by

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Jeeps.
May	7					Ice on the Kuskokwim unsafe to walk on. Ice on the Kuskokwim started to move.
	12					Ice on the Takotna River unsafe for use by Jeeps on 10 May, and unsafe to walk on on 12 May.
	13					Ice on the Takotna started to move.
	15					Ice on the Innoka unsafe to walk on. Boating on the Kuskokwim has started.
	17					Ice on the Innoka River started to move.
	18					Boating on the Takotna River started, and the Kuskokwim River is free of ice.
	20					Boating on the Innoka River started, and the Takotna River is free of ice.
	23					The Innoka River is free of ice.
Moosonee* (ONT):		**Measurements made on Moose River 100 yd from shore directly in front of the Hudson Bay manager's residence.**				
1974						
Nov	17					Ice formed around the shore and sand bars.
	18					Ice has melted.
	20					Shore ice reformed, last canoe crossed the river.
	21					River froze to 100 yd from shore.
	22					River completely froze over in the morning.
	27					River ice safe to walk on.
	29	29.0	74			First snow machines being used on the ice. Trace of snow, some tidal cracks. Ice measurement on this date was taken at 300 yd upstream from established site due to tidal flooding.
Dec	6	10.0	25	3.0	8	
	7					First light vehicle being used on the ice.
	13	10.5	27	6.0	15	Cars and light trucks now on the ice.
	20	14.5	37	7.0	18	Heavy equipment reported to be on the ice.
	23					Observed a heavy equipment (ditch digger) break through the ice approx. 5000 yd up river from the measuring site.
1975						
Feb	14	34.0	86	10.0	25	Measurement taken a few yd from established site due to flooding.
	26					About 75% of the river directly in front of the dwellings was flooded by the tide.
	28	36.0	91			Measurement taken 30 yd south of established site due to 30 ft of flood water in that area. Observer states that the ice sheet at the established site became anchored to the bottom, and the tide, with

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						high winds, flooded the area.
Mar	17					The air temperature rose to 53 deg F on 16 and 17 Mar, which melted lots of snow and water on the ice sheet.
	28	40.0	102			A trace of snow, and all measurements during March were taken 50 yd south of the established side due to flooding.
Apr	4	42.5	108	2.0	5	
	11	49.5	126	1.0	3	
	18	49.5	126	1.0	3	Maximum ice observed on 11 and 18 apr. Ice rotted with layer of water on the ice.
	23					Water drained off ice, ice sheet has lifted.
	25	48.5	123			Measurement estimated, observer unable to reach site due to excess water along the shore. Trace of snow, surface lightly rafted or ridged since 6 Dec 1974.
	27					First shore lead noted.
	29					Tidal flooding caused overflow over approximately half of ice surface.
May	2					Ice thickness estimated to be 15 in.
	6					River became clean of ice.
Jun	11					Ice breakup occurred from 27 Apr to 11 Jun.
Mould Bay* (N.W.T.): Measurements made on Mould Bay approximately 3/4 mile off the west end of the runway.						
1974						
Oct	18	13.0	33	2.0	5	Ice measuring site is as it was last year. First observation for the season.
1975						
Apr	25	72.0	183	15.0	38	No remarks were provided by the observers throughout the winter. See the listed Canadian reference for the weekly ice thickness measurements (Authors).
May	2	72.0	183	18.0	46	
	9	73.0	185	18.0	46	
	16	74.0	188	19.0	48	
	23	74.5	189	18.0	46	
	30	81.0	206	14.0	36	Maximum ice thickness observed. It is possible that a portion of the snow cover had converted to snow ice (Authors). Surface smooth, no ice cracks since 18 Oct 1974.
Jun	6	75.0	191	19.0	48	Last observation for the season. Surface smooth, few ice cracks, flooding has begun.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Nicolet (A)* (QUE):		**Measurements made on St. Lawrence River at coordinates 46 12'45"N latitude and 72 39 54' West longitude.**				
1974						
Dec	20					Ice thickness at all 3 sites uncertain, weather too warm for sufficient ice to walk on. Measurements delayed until 3 Jan 1975.
1975						
Jan	3	9.0	23	3.0	8	First ice thickness measurement for the season.
	14	9.0	23	5.0	13	Surface smooth, no ice cracks observed.
Feb	5					No ice measurements were made from 15 Jan to 21 Feb due to other work load commitments.
	21					Surface smooth, water observed on the ice sheet. No ice cracks visible. Above-freezing air temperatures recorded.
Mar	7	26.5	67	2.0	5	Top 3.5 in. of ice is soft.
	13	26.5	67	2.0	5	Maximum ice thickness observed on 7 and 13 Mar.
	25					No further measurements, ice unsafe.
Nicolet (B)* (QUE):		**Measurements made on St. Lawrence River at coordinates 46 13'01"N latitude and 72 42 00' West longitude.**				
1974						
Dec	20					Ice thickness uncertain. Observations delayed due to warm weather.
1975						
Jan	3	8.0	20	2.0	5	First ice thickness measurement for the season.
	14	9.0	23	4.0	10	Surface smooth, no ice cracks observed.
Feb	5					No measurements were made from 15 Jan to 6 Feb due to other work load commitments.
	6	17.5	44	6.0	15	Surface smooth, few ice cracks observed.
	21	18.0	46	8.0	20	Surface smooth, water observed on the ice sheet. ice cracks not visible. Above freezing air temperatures recorded.
Mar	7	22.0	56	5.0	13	Surface smooth, ice cracks not visible.
	13	24.0	61	5.0	13	Maximum ice thickness observed.
	25					No further measurements, ice unsafe.
Nicolet (C)* (QUE):		**Measurements made on St. Lawrence River at coordinates 46 10'54"N latitude and 72 46' 09" West longitude.**				
1974						

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Dec	20					Frazil ice observed, but ice thickness uncertain. Observations delayed due to warm weather.
1975						
Jan	3	8.0	20	2.0	5	First ice thickness measurement for the season.
	14	9.0	23	4.0	10	Surface smooth, no ice cracks observed.
Feb	5					No ice measurements were made from 15 Jan to 21 Feb due to other workload commitments.
	21	15.5	39	9.0	23	Surface smooth, water observed on the ice sheet. Ice cracks not visible. Above-freezing air temperatures recorded.
Mar	7	19.5	50	5.0	13	Surface smooth, ice cracks not visible.
	13	20.0	51	1.0	3	Maximum ice thickness observed.
	25					No further measurements, ice unsafe.
Nitchequon* (QUE):		**Measurements made on Lake Nichicun, 200 ft due north of the town dock.**				
1974						
Nov	1	6.0	15			First measurement for the season. Trace of snow on the ice.
Dec	6	14.5	37	3.0	8	Surface smooth, no ice cracks observed since 1 Nov.
	13	15.0	38	10.0	25	Surface smooth, no ice cracks observed.
1975						
Jan	31	22.0	56	13.0	33	Surface smooth, no ice cracks observed since 20 Dec 1974.
Mar	28	28.0	71	16.0	41	2 in. of slush mixed with snow observed in the 16 in. of snow cover.
Apr	4	33.5	85	18.0	46	6 to 8 in. of slush mixed with snow observed in the 18 in. of snow cover.
	11	27.5	70	8.0	20	Top cover over the 27.5 in. ice sheet consisted of 8 in. snow, over 2 in. ice (probably a snow-ice layer, Authors) and 10 in. of slush mixed with snow.
	18	28.0	71	7.0	18	In addition to the 7 in. of snow, there was a 6 in. layer of snow-ice and 4 in. of water over the ice sheet.
	25	32.0	81	7.0	18	
May	2	39.5	100	3.0	8	
	9	40.0	102			Maximum ice observed.
	16	35.0	89			
	22					Multiple channels and holes have developed. Ice rotted in many places.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Norman Wells* (N.W.T.):		**Measurements made on the MacKenzie River, 110 yd offshore, at a bearing of 230 deg from the Upper Air Weather Station.**				
1974						
Nov	15	26.0	66	3.0	8	First ice measurement for the season. Observer notes that due to heavy ridging, choice of (site) location is restricted to a few areas where measurements are possible.
Dec	6	38.0	97	1.0	3	Multiple ice ridging observed. Appears to be a small lead halfway across the river.
	27	45.0	114	6.0	15	Ice surface extremely rough, choice of measuring site is very difficult.
1975						
Jan	25	55.0	140	11.0	28	Multiple ridging still observed. Measuring site moved approx. 25 yd west after the 17th of Jan 1975.
Feb	21	57.0	145	20.0	51	Ice measuring site was moved about 20 ft west on this date.
Mar	28	66.0	168	26.0	66	Surface of the river appears very rough with mounds of ice piled up to 10 ft thick in places. Roughness occurred during freeze-up.
Apr	4	65.5	166	28.0	71	
	11	66.0	168	22.0	56	
	18	68.0	173	18.0	46	
	25	68.0	173	14.0	36	Maximum ice observed, last measurement received. Two leads were reported throughout the season.
May	24					Breakup occurred from 6 to 24 May.
Northway (Alaska):		**Measurements made under the Chisana River bridge.**				
1974						
Oct	6					First ice observed on the Chisana and Nebesna Rivers.
	25					Boating on the Chisana and Nebesna Rivers ended.
Nov	1					Ice on the Chesana and Nebesna Rivers now safe to walk on.
1975						
Jan	18	42.5	108	3.0	8	First ice thickness measurement for the season.
	25	42.5	108	4.5	11	
Feb	1	39.5	100	3.0	8	
	8	36.0	91	1.5	4	

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	15	44.0	112	2.5	6	
	23	43.5	110	1.5	4	
Mar	1	42.5	108	3.0	8	
	9	48.0	122	3.5	9	
	15	42.0	107	4.5	11	
	22	42.5	108	1.0	3	
	29	60.5	154	2.5	6	Maximum ice thickness observed. No explanation is given for the sudden increase in ice thickness in one week. However, a rough surface and a few ice cracks reported since 8 Feb indicates the existence of rafted ice. Last measurement, and no break-up information given (Authors).
Norway House (Forestry)* (MAN):						**Measurements made on Nelson River adjacent to the dock on the east side of Forestry Island.**
1974						
Nov	15	1.5	4			First measurement for the season. No further information given on freeze-up conditions.
	22	4.0	10	1.0	3	
	29	8.0	20	1.0	3	No ice cracks observed during Nov.
1975						
Jan	25	22.0	56	17.0	43	Drifting snow and high winds between 19 and 24 Jan prevented aircraft to land on the lake (due to the drifts). Conditions also mde it difficult to measure accurate snow depths in some areas.
Feb	28	28.0	71	7.0	18	Fairly mild weather crusted the snow surface to a hard smooth top. Little snowfall throughout Feb.
Mar	21	28.0	71	7.0	18	
	28	30.0	76	9.0	23	
Apr	4	30.0	76	9.0	23	
	11	30.0	76	9.0	23	
	18	30.0	76	6.0	15	Maximum ice observed on 28 Mar and 4, 11 and 18 Apr.
	25	28.0	71			Last measurement for the season.
May	10					Breakup occurred between 3 and 10 May.
Nunivak (Alaska):						**Measurements made on Mekoryuk Bay.**
1974						
Nov	2					Very little slush on the river with tide movement.
	9					Upriver is partly frozen but still unsafe to walk on, slush amount increasing.
	16					Upriver is now safe to walk on, but the Bay is still

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						not frozen over, but lots of ice cakes are observed.
	23	4.0	10			
	30	7.5	19			
Dec	7	18.0	46			
	14	19.0	48			No snow cover on the ice since 23 Nov.
	21	19.5	50	3.0	8	
	28	22.0	56	4.0	10	
1975						
Jan	4	34.0	86	4.0	10	
	11	34.0	86	4.0	10	
	18	33.5	85	6.0	15	Surface rough, many ice cracks observed since 23 Nov 1974.
	25	37.0	94	6.5	17	Surface not as rough as before, still many ice cracks observed.
Feb	1	34.0	86	8.0	20	
	8	36.5	93	8.0	20	
	15	36.5	93	9.0	23	
	22	37.0	94	9.0	23	Maximum ice thickness observed.
Mar	1	28.0	71	8.0	20	No explanation is given for the sudden decrease in ice thickness (Authors).
	8	28.5	72	8.0	20	
	15	28.5	72	8.5	22	
	22	29.0	74	9.0	23	
	29	29.0	74	9.0	23	Last measurement received for the season. Surface smooth, few ice cracks observed from 1 Feb to 29 Mar.
Pond Inlet* (N.W.T.): Measurements made on Eclipse Sound, 800 m on a line NW starting at the shore adjacent to the Southerly Church.						
1974						
Dec	20	31.5	80	3.0	8	First measurement for the season. Site identified by tetrahedra 10 ft, flagmarker and pulse-light. Area is approx. 6000 ft long and 600 ft wide, is clear and smooth and extends in about a 045 deg direction.
	27	32.0	81	3.0	8	An ice core taken with salinity values of 14.65 o/oo at 2 in. depth and 8.40 o/oo at 24 in.
	30	35.0	89	3.0	8	Ice thickness measurement made with SIPRE corer. No leads or ice cracks observed during Dec.
1975						
Mar	7	60.5	154	5.5	14	
	14	64.5	164	5.5	14	
	21	66.5	169	6.0	15	

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	28	67.5	171	6.0	15	
	31	68.0	173	6.0	15	Ice thickness given as 173 cm and snow depth 15 cm by the observer. Surface moderately ridged, no leads and few ice cracks observed during Feb and Mar.
Apr	4	68.0	173	6.0	15	Measurements given as 173 cm for ice and 15 cm for snow by the observer.
	18	69.5	177	6.0	15	Measurements given as 177 cm for ice and 15 cm for snow by the observer.
	25	70.0	178	8.0	20	Measurements given as 178 cm for ice and 20 cm for snow by the observer. Maximum ice thickness observed. Last measurement for the season. Surface moderately ridged, no leads or ice cracks observed during April.
Port Alfred* (QUE):		**Measurements made in Ha Ha Bay, 300 ft north of the Ministry of Transport dock. Coordinates are 40 20'8" north latitude and 70 52'2" west longitude.**				
1974						
Dec	28					Ice unsafe to walk on in Dec. Freeze-up occurred approx. over the widest part of the Bay on this date.
1975						
Jan	3	13.5	34	2.0	5	First measurement for the season. Observer notes that the measurements were sometimes taken elsewhere depending on the ice conditions that are affected by the ocean influence. Surface smooth, some ice cracks.
	10	14.0	36	2.0	5	Small open channels observed.
	31	20.0	51	4.0	10	Surface smooth, some fissures (leads?) have formed, probably due to the work done by the (icebreaker) d'Iberville.
Feb	21	26.0	66	11.0	28	Maximum ice thickness observed.
	28	25.5	65	12.0	30	Some ice cracks observed during Feb. The ice-breakers have formed a navigable passage between the docks of Port Alfred and the mouth of the Bay in the direction of St. Laurent.
Mar	7	25.5	65	10.0	25	
	14	24.5	62	11.0	28	
	17					Following the work of the icebreaker (NM Rogers), Bay opened from the Port Alfred approach to the direction of St. Laurent.
	21	23.5	60	13.0	33	Surface smooth, few ice cracks observed on 7, 14 and 21 March.
	27	23.0	58	11.0	28	Last measurement for the season. Surface smooth. No ice cracks observed.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Port Alsworth (Alaska):		**Measurements made on Hardenbourg Bay of Lake Clark.**				
1974						
Nov	9	2.0	5			First measurement for the season.
	16	4.5	11			
	23	10.0	25			No snow on the ice during 9, 16 and 23 Nov.
	30	12.0	30	1.0	3	Snow cover is light and fluffy. Unusually warm weather noted.
Dec	2					First ice, and boating ended on Lake Clark.
	7	13.0	33			No snow on the ice.
	14	15.0	38	4.0	10	
	21	16.0	41	9.0	23	Snow light and fluffy on 14 and 21 Dec. Observer notes that snow amount is much more than average.
	28	15.0	38	3.0	8	Snow cover is granular. Observer notes that this is the least ice recorded for this time of the year. Surface smooth, no ice cracks during Nov and Dec.
1975						
Jan	4	21.0	53	3.0	8	Snow cover light and fluffy.
	8					Ice on Lake Clark safe for use by light aircraft.
	11	24.0	61	2.0	5	Snow cover is granular.
	18	26.0	66	2.0	5	Snow cover is hard packed.
	25	26.0	66	2.0	5	Snow cover is granular and not drifted.
Feb	1	30.0	76	6.0	15	Snow cover is fluffy.
	8	28.0	71	4.0	10	
	15	31.0	79	6.0	15	
	22	30.0	76	4.0	10	Snow cover during 8, 15 and 22 in. granular.
Mar	1	31.0	79	4.0	10	
	8	32.0	81	4.0	10	Snow cover on 1 and 8 Mar was fluffy. Surface smooth, few ice cracks since 4 Jan.
	15	32.0	81			Snow cover depth ranges from 0 to 12 in. is granular and drifted.
	22	32.5	83	1.0	3	
	29	35.0	89	5.0	13	Snow cover depth ranges from 0 to 20 in. in drifts on 22 and 29 Mar. Bay surface is very rough with hard and compact drifts due to strong winds. The main (Clark) lake may experience pressure ridges and overflow.
Apr	5	35.0	89	4.0	10	The narrows are opening.
	12	36.0	91	2.0	5	Narrows are now almost fully opened. Snow cover compacted and surface rough on 5 and 12 Apr.
	19	36.0	91			Openings now observed along the NE shore.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	36.0	91			More openings observed along all shorelines. No snow on the ice, surface smooth, few ice cracks during 19 and 26 Apr. Maximum ice observed on 12, 19 and 26 Apr.
May	3	32.0	81			
	9					Ice surface on Bay and on Lake Clark now unsafe for use by light aircraft.
	10	25.0	64			
	17	8.0	20			Huge holes in the ice appearing everywhere. No snow on the ice and surface rough with numerous ice cracks on 3, 10 and 17 May.
	18					First movement of ice observed on Lake Clark.
	24					Bay now clear of ice, and boating commenced on Lake Clark.
	31					Lake Clark now clear of ice.
Poste de la Baleine* (QUE):		**Measurements made on the Great Whale River, 2 mi. from the mouth of the river and 60 yd out from the south shore.**				
1975						
Apr	11	56.0	142	9.0	23	
	18	60.0	152	7.0	18	Maximum ice thickness observed.
	25	58.0	147	5.0	13	
May	16					No ice thickness measurements made on 2, 9 and 16 May due to unsafe conditions. Ice surface covered with water with above freezing air temperatures since 25 Apr.
	17					Ice breakup has started.
	21					River is now free of ice.
Resolute* (N.W.T.):		**Measurements made on Resolute Bay, 100 yd SSE of the tidal shack toward the center of the Bay.**				
1974						
Nov	1	33.0	84	8.0	20	First measurement for the season.
	8	34.5	88	11.0	28	Surface smooth, no ice cracks on 1 and 8 Nov.
Dec	27	58.0	147	12.0	30	An oil company is now doing stress tests on the north end of the Bay. There are several ice cracks which extend through the full length of the Bay.
1975						
Jan	4	54.0	137	18.0	46	Poor weather conditions observed on 3 Jan.
	10	55.5	141	18.0	46	Surface smooth, few ice cracks observed since 15 Nov 1974.
	24	64.0	163	13.0	33	Surface smooth, no ice cracks observed on 17 and 24 Jan.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	25	77.0	196	6.0	15	
May	2	80.0	203	14.0	36	
	9	82.0	208	13.0	33	
	16	86.0	218	13.0	33	Maximum ice thickness observed.
	23	80.0	203	15.0	38	
	30	84.0	213	24.0	61	Last measurement for the season. Surface smooth, few ice cracks observed since 1 Feb.
Jun	7					Ice breakup has started.
Aug	2					Ice breakup continued until this date.
Sachs Harbour* (N.W.T.):		**Measurements made on Amundsen Gulf, 50 yd south of the R.C.M.P. office.**				
1974						
Oct	11	11.0	28	2.0	5	First measurement for the season.
	25	17.0	43	5.0	13	Snowmobile was used to reach the observation site.
1975						
Feb	21	67.0	170	3.0	8	Surface smooth, no ice cracks observed since 11 Oct 1974.
Mar	7	69.0	175	3.0	8	Few ice cracks observed on 28 Feb and 7 Mar.
	14	70.0	178	4.0	10	Surface lightly hummocked on 7 and 14 Mar.
	28	72.0	183	4.0	10	Surface smooth, no cracks on 21 and 28 Mar.
Apr	4	74.0	188	4.0	10	
	11	71.5	182	5.0	13	
	18	75.0	191	5.0	13	
	25	77.0	196	6.0	15	Surface lightly hummocked, no ice cracks during Apr.
May	2	77.0	196	5.0	13	Surface moderately hummocked.
	9	77.0	196			Maximum ice thickness observed on 25 Apr and 2, 9 May.
	13					A lead, approx. 1/2 mi. wide, opened up about 6-8 mi. from shore. Helicopter pilot reports open water as far as visible. The lead has narrowed and widened depending on wind direction.
	16	75.5	192			
	23	74.0	188			
	30	68.0	173			There are numerous ice cracks about 3-4 ft wide at 1 to 2 mi. out. There is a crack around the shore about 4 ft wide. Numerous patches of water on the ice, some from shore fed creeks.
Jun	6	65.0	165			
	11					Ice lifted from shore, and created a shore lead.
	13	58.0	147			Last ice thickness measurement for the season. Surface smooth with no snow cover but numerous

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						ice cracks since 9 May.
	16					A lead opened up across the Bay 2 mi. west of the station creating open water from Marth Point to Cape Kellet. The ice measuring site was surrounded by cracks and rotting ice, with open water from over 14 ft from shore. Ice in the bay covered with puddles over approx. 70% of the surface. The ice sheet appears to be more solid in the section near the open water.
Sault Ste. Marie* (A) (ONT):		**Measurements made at 2000 ft west of the lock on the St. Marys River canal (Site A).**				
1975						
Feb	24	12.0	30	3.0	8	First measurement of the season.
Mar	3	18.0	46	2.0	5	Maximum ice thickness observed.
	10	17.5	44	0.5	1	
	17	17.0	43			No snow on the ice. "Good" ice reported on 3, 10 and 17 Mar.
	24	16.0	41	4.0	10	"Soft" ice reported by the observer.
	31					Holiday, no ice measurement taken.
Apr	1	16.0	41	4.0	10	Last measurement received for the season.
May	2					ice breakup occurred from 23 Mar to 2 May.
Sault Ste. Marie* (B) (ONT):		**Measurements made at 1700 ft west of the lock on the St. Marys River canal (Site B).**				
1975						
Feb	24	13.0	33	1.0	3	First measurement of the season.
Mar	3	17.5	44	2.0	5	
	10	16.5	42	1.0	3	
	17	17.0	43			No snow on the ice. "Good" ice reported on 3, 10 and 17 Mar.
	24	18.0	46	2.0	5	Maximum ice thickness observed.
	31					Holiday, no ice measurement. Ice observations at 300 and 600 ft east of the Lock of the canal were not possible because the conditions were given as unsafe.
Apr	1	16.5	42	3.0	8	Last measurement received for the season.
May	2					Ice break-up occurred from 23 Mar to 2 May.
Schefferville* (QUE):		**Measurements made on Knob Lake.**				
1974						
Nov	8	10.0	25	0.5	1	First measurement for the season.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	29	18.5	47	3.0	8	Surface smooth, few ice cracks observed during Nov.
Dec	6	21.5	55	2.5	6	5 in. of white ice.
	13	22.5	57	8.0	20	3 in. of white ice.
	20	25.5	65	8.0	20	4 in. of white ice.
	27	24.5	62	9.5	24	7.5 in. of white ice and 17 in. "black" ice.
1975						
Jan	11	26.0	66	10.5	27	Reported 21 in. white ice and 5 in. black ice, but possibly in reverse (Authors).
Feb	2	33.5	85	10.0	25	Surface lightly ridged, no ice cracks on 11 Jan and 2 Feb.
	28	42.5	108	15.5	39	9 in. white ice and 33.5 in. black ice. Surface lightly to moderately ridged in Jan and Feb.
Mar	7	45.0	114	14.5	37	No water pressure observed, 9 in. white ice and 36 in. black ice.
	14	45.5	116	15.0	38	1/4 in. water pressure, 6 in. white ice and 37.5 black ice. Surface smooth, no ice cracks on 7 and 14 Mar.
	21	45.0	114	15.0	38	1/2 in water pressure, 6.5 in. white ice and 38.5 in. black ice.
	28	44.5	113	15.0	38	1/4 in. water pressure, 4.5 in. white ice and 40 in. black ice. Surface drifted, no ice cracks.
Apr	5	46.0	117	14.5	37	1/2 in. water pressure, 5 in. white ice and 41 in. black ice.
	11	49.0	124	26.0	66	1 in. water pressure, 6 in. white ice and 43 in. black ice.
	19	57.5	146	34.0	86	5 in. water pressure, 5.5 in. white ice and 34 in. black ice. Surface smooth, no ice cracks on 5, 11 and 19 Apr.
	24					No water pressure noted.
	26	60.0	152	10.0	25	
May	3	62.0	157	6.0	15	Maximum ice thickness observed. It is possible that part of this ice sheet is snow ice formed by the decrease in the depth of the snow cover (Authors).
	10	58.0	147	2.0	5	
	17	46.0	117	6.5	17	
	25	43.0	109	7.0	18	Last measurement for the season.
Jun	19					Ice breakup occurred from 13 May to 19 Jun.
Shepherd Bay* (N.W.T.):		**Measurements made on the bay, 300 ft off shore directly in line with the north fuel tank.**				
1974						
Oct	20	26.0	66	0.5	1	First measurement for the season.
Nov	19	33.0	84	3.0	8	Surface lightly ridged, few ice cracks on 3, 10 and

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						19 Nov.
1975						
May	10	88.0	224	3.0	8	
	17	88.0	224	3.0	8	Maximum ice thickness observed on 10 and 17 May.
	24	86.0	218	2.0	5	
	31	83.0	211	1.0	3	
Jun	7	81.0	206			Ice cover now free of snow.
	14	72.5	184			
	15					Ice began to melt along the shore.
	19					Ice melted completely to approx. 50 ft offshore.
	21	59.0	150			
	28	38.0	97			Surface smooth, few ice cracks observed during June. Ice breakup began.
Jul	4	24.0	61			
	11	18.0	46			
	19	12.0	30			
	26	10.0	25			
	30	9.0	23			Last ice measurement for the season.
Snowshoe Lake (Alaska):		**Measurements made approx. 200 yd west of the aircraft charter facilities on the east shore of Snowshoe Lake.**				
1974						
Sep	28					First ice in a bay in the SW corner of the lake, but later taken out by wind.
	30					30 mph north winds during the night.
Oct	1					Frozen spray of ice formed along the shore.
	3					Bay section and shallow south end of the lake, approx. 250 yd out from shore and area around the shoreline, has frozen over.
	11					Considerable pan ice in the lake and sheet ice farther out from the south end and some areas in the north end.
	14					Lake is about 1/2 frozen over with very thin ice.
	16					Only deep water areas of the lake are still open.
	19					Lake entirely frozen over, but unsafe to walk on. Thickness estimated to be 1.5 to 2 in.
	25					Much of the lake ice is covered with water, ice cover appears weak.
	26	4.5	11			Trace of snow on the ice. Surface lightly ridged, numerous ice cracks have recently formed.
	30					First time ski-equipped aircraft on the lake ice.
Nov	2	6.0	15	1.5	4	

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	3					Heavy snowfall caused water overflow over the entire lake.
	9	8.5	22	2.5	6	Lake became mostly frozen over again, but overflow still exists over parts of the lake. Surface water absorbed much of the new snow cover. Surface moderately ridged, numerous ice cracks observed on 2 and 9 Nov.
	16	9.5	24	5.0	13	
	23	11.0	28	6.5	17	
	30	12.5	32	6.0	15	Snow cover density during Nov ranged from 0.134 to 0.178 g/cm^3.
Dec	7	14.0	36	7.0	18	
	14	14.5	37	7.0	18	Small increase in ice accumulation due to insufficient cold air temperatures (maximum 22 deg F, and minimum -1 deg F)
	21	15.0	38	7.5	19	
	28	15.5	39	10.0	25	Snow cover density during Dec ranged from 0.172 to 0.198 g/cm^3. Surface heavily ridged, few ice cracks since 16 Nov.
1975						
Jan	4	18.5	47	5.0	13	Measurement consisted of 1 in. ice, 4 in. water, then the rest "good" ice. Water overflow still remains over most of the sunken areas of the lake. Observation site is particularly vulnerable to overflow conditions. Observer wondered if the ice drilling at the site is the reason for it.
	11	19.5	50	5.0	13	No overflow observed, lake is now solid ice.
	18	20.5	52	5.5	14	
	25	21.0	53	5.5	14	Snow cover density during Jan ranged from 0.180 to 0.182 g/cm^3.
Feb	1	22.0	56	6.5	17	
	8	22.5	57	7.0	18	Surface moderately to heavily ridged and few ice cracks observed from11 Jan to 8 Feb.
	15	23.5	60	7.5	19	
	22	25.0	64	7.0	18	Fairly brisk winds have produced some "gentle" drifts on the lake, depth of snow varies by 2 in. or more. Snow cover density during Feb ranged from 0.132 to 0.200 g/cm^3.
Mar	1	26.5	67	7.5	19	
	8	27.0	69	8.0	20	
	15	28.0	71	8.0	20	
	22	28.5	72	9.0	23	
	29	29.5	75	9.0	23	Snow cover density during Mar ranged from 0.176 to 0.200 g/cm^3. Maximum ice thickness observed, but the observer later thinks the reading may not be representative since all other readings

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						(i.e., later in the winter) were less. This measurement may have instead been 28 and 3/4 in. Observer notes that during previous winters ice depth generally reaches a peak value and remains unchanged for a period of time.
Apr	5	28.5	72	11.0	28	
	12	28.5	72	9.5	24	
	19	28.5	72	5.0	13	Snow on the ice is very wet. Standing water observed in SW corner (inlet and outlet) during Apr and remains unchanged.
	26	28.5	72	4.0	10	Actual ice thickness during all of Apr was 28 and 3/4 in., but for standardization purposes it is shown in the column to the nearest 1/2 in. Snow cover density during Apr ranged from 0.194 to 0.302 g/cm^3. Surface moderately ridged, few ice cracks since 1 Mar.
May	3	27.5	70	1.0	3	
	10	27.0	69			No snow on the ice. Top 10 in. very soft. Rest of ice sheet not very hard. Bottom portion also quite soft. Water on the ice all around edge of lake. Lake ice unsafe for use by ski-equipped aircraft. Surface lightly ridged, few ice cracks.
	14					It is necessary now to use a boat to get out on the ice. Open water all around the edges with much runoff into the lake now.
	17	21.5	55			Top 2 in. of ice mushy, ice flattens underfoot, drilling through ice is rapid, with bottom layer being pierced by weight of the drill. Last day ice is safe to walk on. Lots of holes on the ice.
	18					Edges all free of ice now, ice sheet moves with the wind.
	24					Ice sheet very rotten, breaks easily when pushed on shore by the wind.
	25					Strong south wind moved ice throughout the night. Boating has started on the lake.
	27					Ice on the lake was gone by morning, "eaten" by the wind and wave action..
South Baymouth* (ONT):						**Measurements made on south Bay 100 yd SE off the end of the Ministry of Natural Resources Dock.**
1974						
Jan	14					Freeze-up of the bay.
	22	5.5	14			First measurement for the season. No snow on the ice.
	30	12.5	32	0.5	1	Top 6 in. of the ice was soft and slushy.
Feb	27	16.5	42	3.0	8	The snow cover was hard and crusty.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Mar	27	21.0	53	1.0	3	
Apr	3	22.0	56			Maximum ice thickness observed. No snow on the ice.
	11	21.0	53	0.5	1	
	17	16.5	42			About 3 in. of slush and water on the ice. Surface smooth, few ice cracks observed since 22 Jan. Last measurement for the season.
	26					Ice has broken up and has started to move with the wind.
May	1					No ice visible anywhere.
Steese Highway, Mile 41 (Alaska):		**Measurements made on the Chatnika River, 10 ft from the bank and about 100 to 150 ft downstream from the observer's home.**				
1974						
Oct	5					First report, no ice as yet on the river.
	12	3.0	8			
	19	4.0	10			
	26	6.0	15			Surface rough, no snow on the ice. No cracks visible. River still not completely frozen over.
Nov	9	6.5	17			3 ft of snow cover reported, but authors are uncertain whether it is on land or over the ice.
	16	7.0	18			
	23	8.5	22			Some ice cracks observed.
	30	12.0	30			Observer notes that the ice sheet "heaved" at about 100 ft from the "water hole" (possibly means from the ice observation point). 3.5 ft of snow cover observed.
Dec	1	13.0	33			
	8	14.0	36			
	15	14.0	36			
	22	16.0	41			
	29	36.0	91			Snow depths during Dec ranged from 3.5 to 4.5 ft. Surface smooth since 9 Nov. Observer reports open hole in the ice on 29 Dec, and the ice is thin in spots causing a person to fall through. Last measurement for the season. Maximum ice thickness unknown.
Summerside* (P.E.I.):		**Measurements made approximately 50 ft north of the first black buoy to the west end of the railway wharf.**				
1975						
Jan	3	2.0	5			First measurement for the season. No snow on the ice. Ice sheet does not seem as hard as last year. Some open water areas observed.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	31	12.0	30	4.0	10	Although it has been cold, observer believes snow cover has slowed the ice growth.
Feb	28	17.5	44	1.0	3	Observer believes the 1.5 in. increase in ice thickness during the past week was due to thawing and freezing processes because the weather was not cold enough to grow ice.
Mar	7	19.0	48	2.0	5	
	14	20.5	52	1.0	3	Maximum ice thickness observed.
	21	13.0	33			
	28	11.0	28	1.0	3	Some open water at south end of the railway wharf. Observer believes ice will melt fast now. Last measurement for the season. Few cracks observed since 3 Jan.
Apr	28					Ice breakup occurred from 6 to 28 Apr.
Tanana (Alaska):		**Measurements made on the Yukon River 50 ft offshore at about 1/2 mile above the village.**				
1974						
Oct	18					River froze over on this date.
Nov	2	8.0	20			Ice cover froze over, very rough, surface very ridged. No snow on the ice.
	9	14.0	36	1.0	3	
	12	17.0	43	2.0	5	
	23	20.0	51	3.0	8	Surface rough, no ice cracks observed since 2 Nov.
	30	22.0	56	5.0	13	
Dec	7	26.0	66	3.0	8	
	14	29.0	74	3.0	8	
	21	31.0	79	3.0	8	18 in. of snow cover observed over the land area.
	28	35.0	89	4.0	10	
1975						
Jan	4	38.0	97	4.0	10	
	11	41.0	104	3.0	8	
	18	43.0	109	2.0	5	Surface rough, few ice cracks observed since 30 Nov 1974.
	25	44.0	112	6.0	15	
Feb	1	45.0	114	3.0	8	
	8	45.0	114	3.0	8	Snow depth over land 21 in.
	15	48.0	122	4.0	10	
	22	50.0	127	5.0	13	Maximum ice thickness observed but this is the last measurement for the season due to equipment problems.

Thunder Bay* (ONT): Measurements made in Thunder Bay Harbour, 700 yd SE of Bare Point.

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1975						
Jan	17	11.5	29	1.0	3	First measurement for the season.
	31	15.5	39	5.0	13	Snow cover very irregular, ranging from 1 to 10 in. with several bare patches. Snow depth at measurement site was about 7 in.
Feb	7	15.0	38	3.0	8	Surface smooth, no ice cracks since 17 Jan.
	14	19.0	48	3.0	8	A few minor ice cracks observed.
Mar	7	23.0	58	3.0	8	Surface smooth, no ice cracks since 17 Jan.
	14	26.5	67	2.0	5	Maximum ice thickness observed. A few ice cracks noted.
	21	24.0	61	2.0	5	Last measurement for the season.
	27					Ice sheet has become badly broken up at the site due to intensive ice breaking by the Alexander Henry. Brisk winds from various directions have caused considerable shifting of the ice over much of the harbour.
Apr	27					Ice break-up continued from 10 Mar to 27 Apr.
Tuktoyaktuk* (N.W.T.):		**Measurements made in Tuktoyaktuk Harbour, 300 yd SE of the N.T.C.L. main dock.**				
1974						
Sep	25					Harbour froze over on this date.
Oct	1	6.0	15			First measurement for the season. No snow on the ice.
	4					Tidal cracks froze over on this date.
	13	12.0	30	1.0	3	Surface smooth, no ice cracks on 1, 6 and 13 Oct.
1975						
Feb	28	63.0	160	8.0	20	
Mar	7	68.0	173	4.0	10	It is possible that some of the snow cover had converted to snow-ice and now part of the ice sheet (Authors).
	14	71.0	180	4.0	10	
	22	72.0	183	6.0	15	
	29	73.0	185	5.0	13	Surface smooth, few to no ice cracks observed since 1 Nov 1974.
Apr	4	75.0	191	4.0	10	
	18	77.0	196	10.0	25	Maximum ice thickness observed.
	25	76.0	193	8.0	20	Last measurement for the season.
Jun	25					Ice breakup occurred from15 May to 25 June.
Welland Canal* (ONT): A		**Measurements made on Port Weller Harbour (below Lock 1).**				

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1975						
Feb	17					Open water.
	24					Open Water.
Welland Canal* (ONT): B		**Measurements made on Welland Canal above the guard gate.**				
1975						
	17	9.0	23	2.0	5	Maximum ice thickness observed.
	24	7.0	18			Ice sheet covered with water.
Welland Canal* (ONT): C		**Measurements made at Former Bridge 12.**				
1975						
	17	1.0	3	3.0	8	Snow cover mostly consists of slush.
	24					Open water.
Welland Canal* (ONT): D		**Measurements made at Bridge 19.**				
1975						
	17	8.0	20	1.0	3	Maximum ice thickness observed. Snow cover mostly slush.
	24	6.0	15			
May	0					
Welland Canal* (ONT): E		**Measurements made on Port Colborne Harbour.**				
1975						
Feb	17	8.0	20	1.0	3	Maximum ice thickness observed. Snow cover mostly slush. The above measurements for these Welland Canal sites were the only measurements received for the season.
	24	6.0	15			
Yellowknife* (N.W.T.):		**Measurements made on Back Bay approximately 175 yd NW of the Northward Aviation Float Base.**				
1974						
Oct	23	4.5	11	1.0	3	First measurement for the season.
1975						

TABLE I. ICE THICKNESS 1974-75

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Feb	15	26.0	66	11.0	28	
	23	39.5	100	11.0	28	Maximum ice thickness for the season. No explanation was given for the sudden rapid increase in ice growth (Authors).
Mar	1	39.0	99	9.0	23	
	8	37.0	94	11.0	28	
	15	31.0	79	11.0	28	
	23	25.5	65	15.0	38	
Apr	1	31.5	80	13.0	33	
	8	32.5	83	10.0	25	
	15	29.5	75	10.0	25	
	23	31.0	79	4.0	10	Surface smooth, no ice cracks reported throughout the winter. Last measurement for the season.
May	21					Ice breakup ended on this date.

TABLE II. ICE THICKNESS 1975-76

DATE	Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Alert (A)* (N.W.T.):	**Measurements made on Upper Dumbell Lake, 75 yd from shore, and SW of the pump house.**				
1975					
Aug 30					First permanent new ice formed on this date.
Sep 4					Upper Dumbell Lake froze over on this date.
12	7.5	19	1.0	3	First ice thickness measurement for the season.
Oct 3					No ice measurement due to "very bad" weather and no available vehicle.
10	17.0	43	2.0	5	Surface smooth, no ice cracks since 12 Sep.
1976					
Mar 12					No ice measurement due to no available vehicle.
Apr 30	84.0	213	18.0	46	
May 7	86.0	218	15.0	38	
14	86.0	218	17.0	43	
21	87.0	221	17.0	43	
28	86.0	218	16.0	41	
Jun 4	89.0	226	18.0	46	
11	90.0	229	17.0	43	Maximum ice thickness observed.
18	89.0	226	16.0	41	Surface smooth, few ice cracks observed since 17 Oct 1975.
22					First breaks in the ice, ice sheet starting to deteriorate.
25					Observer unable to cross the shore lead which is approximately 15 ft wide and 3 ft deep. Last observation for the season.
Alert (B)* (N.W.T.):	**Measurements made on Alert Inlet (previously identified as Parr Inlet, 75 yd from shore, and east of the Hydrographic Benchmark.**				
1975					
Aug 30					First permanent new ice formed on this date.
Sep 12	5.5	14	1.0	3	First ice measurement for the season.
Oct 3					No ice measurement due to "very bad" weather and no available vehicle.
10	12.0	30	1.0	3	Surface smooth, no ice cracks since 12 Sep.
1976					
Mar 12					No ice measurement due to no available vehicle.
Apr 30	81.1	206	14.0	36	
May 7	83.0	211	15.0	38	
14	83.0	211	16.0	41	
21	83.0	211	16.0	41	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	28	85.0	216	16.0	41	
Jun	4	87.0	221	18.0	46	
	11	89.0	226	17.0	43	Maximum ice thickness observed.
	18	88.0	224	14.0	36	
	25	83.0	211	10.0	25	Last ice thickness measurement for the season. Surface smooth, few ice cracks observed since 17 Oct 1975. Approximately 6 in. of surface meltwater in addition to the snow cover.
Aug	5					First breaks in the ice, ice sheet starting to deteriorate. Last observation for the season.
Allakaket (Alaska):		**Measurements made on the Koyukuk River, in front of St. Johns-in-the-Wilderness Church.**				
1975						
Oct	6					First ice on the Koyukuk and Alatna Rivers.
	8					More ice accumulating in the river during past two days.
	9					Considerable ice now forming in the river. Boating has ended.
	10					Shore ice now out to 4 ft from the river edge.
	11					Lots of ice on the river, but too thin to walk on.
	18	4.5	11			First ice measurement for the season. No snow on the ice.
	25	8.0	20			
	26					Both rivers frozen over now.
	29					Koyukuk and Alatna Rivers ice safe to travel on with snowmobiles.
Nov	1	9.5	24			
	8	12.0	30			
	15	14.0	36			Trace of snow on the ice since 25 Oct.
	22	16.0	41	1.0	3	
	29	18.0	46	6.0	15	
1976						
Feb	28					No reports received from Allakaket during Dec 1975, and Jan or Feb of 1976.
Mar	6	20.5	52	20.0	51	
	13	22.0	56	24.0	61	
	20	23.0	58	26.0	66	
	27	23.0	58	27.0	69	
Apr	3	23.0	58	26.0	66	
	10	23.0	58	20.0	51	
	17	23.0	58	16.0	41	Maximum ice thickness observed from 20 Mar to 17 Apr.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	24	22.0	56	13.0	33	
May	1	22.0	56	9.0	23	Some water over the ice. Last ice measurement for the season.
	5					Ice moved at 5 PM on this date.
Bagotville* (QUE):		**Measurements made on Baie des Ha Ha (Saguenay River), 500 ft south of the Bagotville pier and 400 ft from shore.**				
1975						
Dec	8					First permanent new ice.
	13					The Baie des Ha Ha became completely covered with ice on this date.
1976						
Jan	2	22.5	57	9.0	23	First ice thickness measurement for the season. Few shore leads and tide cracks observed. Ministry of Transport icebreaker made passage through the Bay to the Port Alfred Pier.
	16	25.5	65	7.0	18	Surface smooth, few ice cracks since 2 Jan. Light hummocking to about 300 ft from shore. "Fresh" passage through the Bay.
	31	31.5	80	14.0	36	4 in. of slush on top of the ice beneath the snow is included in the snow total of 14 in.
Feb	6	32.0	81	10.0	25	Surface lightly ridged, few to numerous ice cracks since 24 Jan.
	13	33.5	85	12.0	30	Maximum ice thickness observed.
	27					Port Alfred port official reports that much of Saguenay River is free of ice between Cape a l'est to the St. Lawrence with ice floes of significant size on the river. The bay is still completely ice-covered except for the passage made by the ice breaker.
	28	23.5	60	18.0	46	Surface moderately ridged since 13 Feb, with ice cracks now observed every 2 to 5 ft.
Mar	5					50% of the Bay is covered with broken ice. Last ice measurement for the season, observation site now open water.
	15					Bay is now clear of ice.
Baker Lake* (N.W.T.)		**Measurements made on Baker Lake, 120 yd south of the pump house.**				
1975						
Oct	14					First permanent new ice.
	17					Lake almost frozen over on 14 and 17 Oct but high winds broke up and dissipated the ice sheet.
	25					Lake froze over on this date.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	31	8.0	20			First ice measurement for the season. No snow on the ice. Surface smooth, no ice cracks observed.
Nov	15	18.5	47	1.0	3	Measurement delayed one day due to poor weather.
1976						
Jan	17	59.5	151			Measurement delayed one day due to a storm. No snow on the ice.
Apr	17	91.0	231			
	24	93.0	236			
Jun	4	81.5	207			Last observation for the season, ice conditions more hazardous. Surface smooth, numerous ice cracks since 14 May.
May	1	95.0	241			Maximum ice thickness observed. Trace of snow on the ice. Surface smooth, few ice cracks since 7 Nov 1975.
	7					No ice measurement taken on this date.
	14	88.5	225			
	21	87.0	221			
	24					Ice sheet deteriorating and breaking up.
	28	84.0	213			Runoff water collecting along the shore now.
Jul	7					Baker Lake now clear of ice.
Barrow (Alaska):		**Measurements made on Imikpuk Lake (fresh water) adjacent to the USN Arctic Res. Lab. about 300 to 375 ft ENE of water intake to the center of lake.**				
1975						
Sep	2					Date of first ice along the Arctic Ocean shore.
	8					Lake frozen from shore to shore.
	9					lake has become ice-free.
	10					Arctic Ocean ice now safe to walk on.
	15					Arctic Ocean ice now safe for vehicular traffic.
	18					Ice border has formed around the shore.
	19					Lake has again become frozen from shore to shore.
Oct	4	11.0	28	0.5	1	First ice thickness measurement for the season. Two ice cracks, 3 in. wide, radiating ESE at least 300 ft in length.
	11	14.0	36	1.0	3	One ice crack, 3 in. wide, radiating ESE at least 400 ft in length.
	18	17.5	44	1.0	3	Surface lightly ridged, few ice cracks observed.
	25	20.0	51	1.0	3	One ice crack, 1/2 to 3 in. wide, radiating ESE, length obscured on 18 and 25 Oct. Snow cover firm during Oct and morning air temperature records ranged from -3 to 28 deg F.
Nov	1	22.0	56	3.0	8	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	8	20.0	51	4.0	10	
	15					No ice measurement taken.
	18	31.5	80	3.0	8	One ice cracks, 0.5 in. wide, radiating ESE, length obscured by snow drifts. Snow cover very firm. The Imikpuk snow fence array has been extended beyond the ice measuring site, so snow drifting in the area may now produce greater snow accumulations.
Dec	19	44.0	112	3.5	9	
	29	46.0	117	4.0	10	Ice cracks not visible due to darkness.
1976						
Jan	5	50.0	127	2.5	6	
	9	50.0	127	5.0	13	
	16	51.0	130	4.5	11	
	23	56.0	142	8.0	20	
	30	57.5	146	10.5	27	Observer believes that additional snow cover (due to snow fence relocation) is slowing ice growth, and therefore different from previous year's data. Drifts 15 ft in height have formed on both sides of the measuring site due to the fence.
Feb	6	60.0	152	17.0	43	
	13	61.0	155	14.0	36	
	20	55.0	140	15.0	38	
	27	55.5	141	17.0	43	
Mar	5	58.5	149	18.0	46	
	12	62.0	157	23.0	58	
	19	65.0	165	22.0	56	
	29	70.0	178	18.5	47	Surface smooth, ice cracks not visible due to the snow cover since 5 Jan.
Apr	6	66.0	168	23.0	58	
	12	67.0	170	28.0	71	
	20	67.0	170	27.0	69	
	23	72.0	183	23.0	58	
	30	70.0	178	14.0	36	
May	7	74.0	188	11.0	28	Maximum ice thickness observed.
	14	68.0	173	18.0	46	
	21	73.0	185	18.0	46	
	28	73.5	187	20.5	52	A few ice cracks can be seen in the clear areas, although most areas are covered with snow.
Jun	2					The lake area was plowed to remove the snow fence, so no snow cover now on the ice.
	4	66.0	168			Puddles of water on the surface.
	11	62.0	157			
	18	58.0	147			The lake ice has melted around the edges; last measurement for the season. Surface now

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						honeycombed and a few ice cracks observed throughout the lake.
Barter Island (Alaska):		**Measurements made 100 ft out from shore on a freshwater lake.**				
1975						
Sep	13	1.5	4			Thin ice sheet has formed on the lake.
	20					Ice on the lake has melted, but 0.5 in new ice has formed on the meltponds during freezing period on 19 Sep with 1 in. of new snow.
	21					Ice has begun to reform on the lake.
	24					Ice now safe to walk on.
	27	5.5	14			1 in. of new snow remains on the tundra. Winds have kept the lake ice free of a snow cover.
Oct	4	8.5	22			A few ice cracks formed last week.
	11	11.0	28	1.0	3	
	18	15.5	39			A 40 knot wind blew the new snow cover from the ice surface.
	25	17.5	44			
Nov	1	23.5	60			
	8	29.0	74			
	15	34.0	86			
	27	37.5	95			
	29	40.0	102			Strong winds have kept the ice surface free of snow.
Dec	6	43.5	110			Surface rough, few ice cracks observed since 27 Sep.
	13	48.5	123			Numerous new ice cracks formed during the past week.
	20	52.0	132			
	27	54.5	138			
1976						
Jan	3	57.5	146			
	10	60.5	154			
	17	62.5	159			
	24	65.0	165			Strong wind shave kept the ice surface free of snow since 6 Dec 1975.
	31	68.5	174	1.0	3	New snowfall.
Feb	7					No measurement due to adverse weather conditons.
	13					Strong winds from 6 through 13 Feb blew all snow off the ice surface.
	14	72.0	183			

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	21	75.0	191			
	27					Strong winds recorded.
	28	78.0	198			Numerous new ice cracks have formed during Feb.
Mar	6	81.0	206			A fourth of the lake is covered with shallow snow drifts.
	13	81.0	206	3.0	8	
	20	82.0	208			Strong winds again blew the snow off the ice sheet.
	27	82.5	210			
Apr	3	83.5	212			A few new ice cracks formed on this date.
	10	86.0	218	0.5	1	Maximum ice thickness observed.
	17	85.5	217			
	24	84.5	215	2.0	5	Ice growth stopped, bottom 6 in. of ice sheet has become granular.
May	1	85.0	216			
	8	83.5	212			Ice sheet observed to be "wet" to within 3 ft of the surface. Candled ice appearing on the surface.
	15	81.5	207	2.0	5	Surface rough, numerous ice cracks since 13 Dec 1975.
	22	82.0	208			1 in. of candled ice on the surface, winds removed the snow cover on the ice.
	29	82.5	210	6.0	15	New snowfall cover is drifting on the ice due to 35 knot wind.
Jun	5	81.5	207	4.0	10	
	12	81.0	206			Ice cracks not visible due to snow cover and candling since 22 May. 18 in. of granular ice and the rest of the ice sheet is waterlogged and rotten on the bottom 2 ft. Ice temperature is 32 deg F from top to bottom. Meltwater 4 to 6 in. deep in some areas.
	19					Ice measured 50 ft from shore was 90 in. thick.
	26	72.0	183			Meltwater rings the shore.
Jul	3	64.0	163			Open water along the coastline in places, melt ponds forming on the ice with extensive candling.
	10	61.0	155			Water pools surrounding 90% of the ice field, extending from 5 to 3 ft in length.
	17	53.0	135			A band of open water surrounds the ice field. Surface has been candled with numerous ice cracks since 19 June. Last measurement for the season due to hazardous ice conditions.
Bethel (Alaska):		**Measurements made on the Kuskokwim River 200 yd from the north shore by the Fishermen Cooperative store.**				
1975						
Oct	28					First ice, boating ended.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	29					The river froze cver during a sudden cold snap, but large open holes remain. Very light pressure ridges formed but in general the ice cover is smooth.
	30					Most of the large open water holes have closed or been reduced in size. A man walked across the river on this date.
Nov	3					An aircraft landed on the river ice.
	8					People, snowmachines and aircraft have been traversing the river ice since 3 Nov.
	9	11.0	28	0.5	1	First ice measurement for the season.
	16	17.5	44	0.5	1	
	23	20.5	52	0.5	1	
	30	23.0	58	0.5	1	
Dec	7	27.0	69			Ice sheet free of snow.
	14	30.5	77	3.5	9	
	17					Overflow on parts of the river, most of it is located near the shoreline.
	21	32.5	83	5.0	13	Snow cover depth varies from about 2 to 7 in.
	28	32.0	81	5.0	13	More water overflow observed during the past week, but not at the ice measuring site.
1976						
Jan	4	33.0	84	1.0	3	
	11	35.5	90	1.0	3	
	18	37.5	95	1.5	4	
	25	40.0	102	2.0	5	Snow cover depth on the ice varies from 1 to 8 in. due to drifting.
Feb	1	41.5	105	6.0	15	
	8	43.0	109	6.5	17	Snow depth on ice varies from 4 to 12 in.
	15	43.5	110	6.5	17	
	22	45.0	114	6.5	17	
	29	45.5	116	6.5	17	Due to the landing of planes on the river ice, the snow cover is plowed on the runways and the car trails to them. A runway is located about 10 ft from the ice measuring site.
Mar	7	48.0	122	5.0	13	
	14	48.0	122	6.0	15	
	21	48.5	123	6.0	15	
	28	50.5	128	6.5	17	The average snow depth is difficult to determine due to drifting.
Apr	4	50.0	127	7.0	18	
	11	52.0	132	6.0	15	
	18	51.0	130	5.0	13	
	25	51.0	130	10.0	25	Snow cover consisted of 6 in. hard-packed with 3 to 4 in. of powder snow on top. The ice sheet is

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						still very firm.
May	2	53.5	136			Maximum ice thickness observed. Ice sheet had 4 in. slush on top, but slush cover varied from 2 to 12 in. on the river.
	3					Most of the planes were removed from the ice sheet.
	8					River level still low, last plane has left.
	9	42.5	108			Top 2 in. of ice was crystallized and additional top 8 in. was soft. Test area has open water. A second ice test hole was 38 in. thick, with 8 in. of crystallized ice and 36 of soft ice. Last ice thickness measurement. Surface smooth, no ice cracks visible all winter.
	11					Anchor ice is breaking up and the river is rising.
	16					Some ice blocks have piled up, and river still rising.
	18					Ice sheet moved at 7 PM, and pressure ridges have formed and the banks are full.
	19					River level is at 14.5 ft and the ice is running.
	20					River is now clear of ice and ready for shipping.
Bettles (Alaska):		**Measurements made on Koyukuk River at Evansville.**				
1975						
Oct	18					Boating on the river ended on about this date.
	27					River froze over.
	29					River ice now safe to walk on.
	30					Ice now safe for vehicular traffic (snowmobiles).
Nov	1	8.0	20			First ice thickness measurement for the season. No snow on the ice.
	8	9.0	23	0.5	1	
	15	24.0	61	0.5	1	
	22	26.0	66	2.0	5	Surface uneven on 8, 15 and 22 Nov. Only ice cracks observed are at the edge of the river when water level dropped.
	29	29.0	74	5.0	13	
Dec	6	29.0	74	5.0	13	Surface smooth, no ice cracks observed on the ice sheet as yet.
	13	35.0	89	5.0	13	One ice crack has formed extending straight across the river.
	20	36.0	91	11.0	28	
	27	37.0	94	10.0	25	
1976						
Jan	3	38.0	97	11.0	28	
	10	39.0	99	11.0	28	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	17	41.0	104	11.0	28	
	24	41.0	104	15.5	39	
	31	41.0	104	16.0	41	Ice thickness during 17, 24 and 31 Jan was always within 0.5 in. from 41 in.
Feb	7	43.0	109	26.0	66	
	14					No measurement taken on this date.
	21	45.0	114	23.0	58	
	28	46.0	117	23.0	58	
May	1					No further measurements received for the season. No reason given (Authors).
Big Trout Lake* (ONT):		**Measurements made on Big Trout Lake, 100 yd south of the Department of Environment dock in a bay of and island in the lake.**				
1975						
Nov	12					Freeze-up of the bay with pedestrian traffic started on this date.
	16					Snowmobile use on the ice started on this date.
	19					Cessna 180 and 185 aircraft now landing on the lake ice.
	21	7.0	18			First ice measurement for the season. Trace of snow on the ice.
1976						
Mar	19	43.5	110	7.0	18	
	26	44.5	113	7.0	18	
Apr	2	46.0	117	6.0	15	
	9	46.0	117	4.0	10	Snow cover consisted mostly of watery-slushy snow. Ice sheet is soft since the hot-wire ice measuring device did not require battery power to release it. Maximum ice observed on 2 and 9 Apr.
	16	44.5	113			No snow on the ice.
	23	43.0	109	2.0	5	
	30	43.5	110			Trace of snow on the ice.
May	4					First ice breaks and ice deterioration noted.
	7					No measurement taken.
	14	37.5	95			
	21	27.0	69			The shore lead has widened. Ice is badly candled and rotted. Last ice measurement for the season. The surface has been smooth with no ice cracks observed throughout the winter. No snow on the ice on 30 April and 14, 21 May.
	29					The front and back bays are totally free of ice.
Jun	9					The main lake is now clear of ice.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Blanc Sablon* (QUE): Measurements made on Lac aux Bouleaux at the edge of the west bank and about 50 ft from shore.						
1976						
Jan	16	26.0	66	2.0	5	First ice measurement for the season.
Mar	5	39.0	99	4.0	10	
	12	40.0	102	4.0	10	
	19	43.0	109	7.0	18	Maximum ice thickness observed.
	26	42.0	107	3.0	8	
Apr	2	33.0	84			
	9	31.0	79			
	16	26.0	66			
	23	26.0	66			No snow on the ice during April. Surface smooth, no ice cracks observed throughout the winter.
	30					No further ice measurements, excess water on the ice surface, ice conditions hazardous.
Botwood* (NFLD): Measurements made in an inlet harbor at about the midpoint on a straight line between Killick Point and Mill Point.						
1975						
Dec	7					Freeze-up occurred during the first week of Dec.
	12	5.0	13	0.5	1	First ice measurement for the season.
	20	8.0	20	1.0	3	
	26					High air temperatures from 20 to 26 Dec caused the ice thickness to remain unchanged. No leads observed, but a 50-ft-wide channel has been cut north and south through the harbor.
1976						
Jan	23	14.0	36			Ice cracks observed on 3 and 23 Jan have refrozen. No snow currently on the ice.
	30					Surface smooth, few to no ice cracks observed on the ice since 12 Dec 1975.
Feb	21	18.0	46	7.0	18	
	27	20.0	51	4.0	10	Surface rough on 13 and 21 Feb, but smooth since 12 Dec 1975. Numerous ice cracks observed in Feb.
Mar	7	23.0	58	3.0	8	Ice cracks have refrozen.
	13	23.0	58	1.0	3	Ice cracks have reappeared.
	19	27.0	69	3.0	8	Maximum ice thickness observed. Few ice cracks noted. Surface conditions obscured since 7 Mar.
	26	19.0	48			Last ice measurement for the season. No snow on the ice. Ice surface smooth, few ice cracks.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	1					Ice break-up has started.
Brochet* (MAN):		**Measurements made on Brochet Bay of Reindeer Lake, 2000 ft from the Mission dock.**				
1975						
Nov	2					Freeze-up was observed on this date.
	5	2.5	6	1.0	3	First ice thickness measurement for the season.
	11	3.5	9	1.5	4	Some frozen slush on the surface.
Dec	17	14.0	36	11.0	28	Surface lightly ridged, no ice cracks observed since 19 Nov.
1976						
Jan	14	19.0	48	10.0	25	Surface moderately ridged since 24 Dec 75.
	28	22.0	56	13.0	33	Surface considerably ridged on 21 and 28 Jan.
Mar	10	29.0	74	16.0	41	
	17	32.0	81	16.0	41	
	24	33.0	84	16.0	41	Maximum ice thickness observed.
	31	32.0	81	14.0	36	
Apr	7	31.0	79	12.0	30	Surface moderately ridged, no ice cracks observed since 4 Feb.
	14	32.0	81	1.0	3	
	21	31.0	79	1.0	3	
	28	30.0	76			No snow on the ice.
May	5					No measurement taken.
	12	23.0	58			Surface lightly ridged, few ice cracks observed. Last ice thickness measurement for the season. No snow on the ice.
	15					First ice breaks observed.
	23					Brochet Bay now clear of ice.
Cambridge Bay* (N.W.T.)		**Measurements made on the bay, 100 yd SSE of the town site dock.**				
1975						
Sep	28					First permanent new ice observed on this date.
Oct	13					Freeze-over recorded on this date.
Nov	7	15.0	38	2.0	5	First ice thickness measurement for the season.
	14	17.5	44	2.0	5	
	21	19.5	50	2.0	5	
	28	24.0	61	2.0	5	
Dec	5	25.0	64	2.0	5	
	12	32.5	83	2.0	5	
	19	34.0	86	2.0	5	
	26	32.5	83	3.0	8	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Jan	2					No ice measurement taken.
	9	43.5	110	3.0	8	
	16	50.0	127	3.0	8	
	30					No ice measurement taken on 27 and 30 Jan. The ice data for Nov, Dec 1975 and Jan 1976 are provided here because the values were not included in the referenced Canadian report (Authors).
Apr	30	77.5	197	5.0	13	
May	7	79.0	201	4.0	10	
	14	78.5	199	3.0	8	
	21	77.5	197	6.0	15	
	28	77.0	196	3.0	8	Surface smooth, no ice cracks observed since 7 Nov 1975.
Jun	4	76.0	193	2.0	5	
	11	79.5	202	3.0	8	
	18	72.0	183	1.0	3	Ice sheet started to deteriorate on 15 June.
	26	81.0	206			Maximum ice thickness observed. Surface smooth, few ice cracks observed during June. No snow on the ice on this date.
Jul	2					Ice thickness measurements discontinued on this date due to a wide shore lead making the site inaccessible.
Cape Dorset* (N.W.T.):		**Measurements made on Cape Dorset Harbour, 1500 ft due north of the weather station.**				
1975						
Nov	9					Ice freeze-up recorded on this date.
	21	9.0	23			First ice thickness report for the season.
	30	15.0	38	6.0	15	"Blind" lead observed 1.5 mi. east of the ice measuring site. Surface lightly ridged, few ice cracks observed on 8 and 15 Nov.
Dec	26	24.0	61	10.0	25	Snow cover reported as being "hard" on 21 and 24 Dec.
1976						
Jan	30	36.0	91	14.0	36	Surface lightly ridged, no ice cracks observed since 5 Dec 1975.
Feb	27	43.0	109	15.0	38	Snow cover "hard" in Feb.
Apr	2	50.0	127	10.0	25	
	16	53.0	135	15.0	38	
	23	51.0	130	26.0	66	Surface moderately ridged, or "rough," with no ice cracks observed since 6 Feb.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
May	7	54.0	137	16.0	41	
	14	54.0	137	13.0	33	Maximum ice thickness observed on 7 and 14 May.
	31	51.0	130	10.0	25	
Jun	4	51.0	130	5.0	13	
	11	49.0	124	4.0	10	Surface lightly to moderately ridged, with no ice cracks observed since 7 May.
	25					Insufficient ice for a measurement, observations ended for the season.
Cape Parry* (N.W.T.)		**Measurements made 300 yd from north shore of Gillet Bay on the Amundsen Gulf, 1.5 mi. south of the meteorological station.**				
1975						
Sep	30					First permanent new ice reported on this date.
Oct	27					Freeze-over of the bay reported on this date.
Dec	5	28.0	71	3.0	8	First ice thickness measurement for the season.
1976						
Apr	23	68.5	174	9.0	23	
	30	70.5	179	8.0	20	
May	7	71.5	182	7.0	18	Maximum ice thickness observed.
	14	68.0	173	6.0	15	
	21	68.5	174	7.0	18	
	28					Measurement delayed two days due to strong winds. Ice starting to deteriorate.
	29					2 in. of water covers the ice due to ice and snow melt. 1/3 of the ice sheet is still snow covered.
	30	68.5	174	2.0	5	Ice sheet is soft throughout its depth.
Jun	4	65.5	166			
	11	65.5	166			
	15					Tide crack plus numerous superficial ice cracks have formed.
	18	66.5	169			Surface smooth, few ice cracks observed throughout the winter. Trace of snow on the ice during June. Last ice thickness measurement for the season.
	19					"Flow" lead has developed.
Caraquet* (New Brunswick):		**Measurements made on Caraquet Bay on inlet from the Gulf of St. Lawrence off Youngs Wharf toward Caraquet Island.**				
1975						
Dec	19					Considerable slush on the Bay.
	26					Unable to walk on the ice, the surface is still very

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						slushy.
1976						
Jan	2	12.0	30	4.0	10	First ice thickness measurement for the season.
	23	20.0	51	13.0	33	Surface snow drifted since 2 Jan.
Feb	6	35.0	89	6.0	15	
	13	36.0	91	8.0	20	
	20	36.0	91	9.0	23	
	27	36.0	91	11.0	28	Surface level (smooth) during Feb.
Mar	5	36.0	91	12.0	30	
	12	36.0	91	14.0	36	
	19	36.0	91	23.0	58	Maximum ice thickness observed from 13 Feb to 19 Mar.
	26	32.0	81			8 in. of snow-ice and slush on the surface.
Apr	2	32.0	81			
	9	28.0	71			
	16	26.0	66			Last ice thickness measurement for the season.
	19					Open water extends from the end of the town wharf to Caraquet Island.
	21					A channel was opened on this date by the S.S. Tuffer which left loose ice extending outward from Caraquet Island.
Cartwright* (NFLD):		**Measurements made in Cartwright Harbour of Sandwich Bay off the Coast of Labrador, 100 yd SSW of the main village dock.**				
1975						
Dec	4					First ice observed in the harbor.
	16					Freeze-over occurred on this date.
	26	10.5	27	10.0	25	First ice thickness measurement for the season. Ice cover too "new" for any earlier observations.
1976						
Jan	30	24.0	61	4.0	10	The observer notes that the station is still using the manual (hand) drill method for ice measurement since the hot-wire system is not yet ready.
Feb	27	31.0	79	8.0	20	The hot-wire system was used to obtain ice thickness values on 6, 20 and 27 Feb.
Mar	5	32.0	81	7.0	18	
	12	36.0	91	8.0	20	Maximum ice thickness observed. However, considering the values that followed, the authors wonder if the hot-wire system was providing questionable data. The hot-wire method was used during all of March.
	19	30.0	76	7.0	18	
	27	31.0	79	5.0	13	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	2	33.0	84			
	9	33.0	84			
	16	32.0	81			
	23	31.0	79	2.0	5	
	30	32.0	81			Last ice thickness measurement for the season. No snow on the surface on 2, 9 16 and 30 April. Surface smooth, no ice cracks observed throughout the winter. The hot-wire method was used on all but April 23.
May	4					Ice sheet deteriorating and starting to breakup.
	20					Cartwright Harbour now clear of ice.
Chalkyitsik (Alaska):		**Measurements made approximately 100 yd NE of the Episcopal Church 100 ft from the bank of the Black River.**				
1975						
Oct	2					River froze over, ice cover very thin.
	4	1.0	3			Trace of snow on the ice.
	11	3.0	8	1.0	3	
	18	5.0	13	3.0	8	
	25	10.0	25	4.0	10	
Nov	1	12.0	30	4.0	10	
	8	12.0	30	4.0	10	
	15	14.0	36	4.0	10	
	22	16.0	41	4.0	10	
	29	32.0	81	4.0	10	Ice thickness on this date was reported as 32 in., but this seemed unrepresentative according to the following values (Authors). It is possible that the observer is recording rafted ice.
Dec	6	30.0	76	26.0	66	
	13	30.0	76	28.0	71	
	20	28.0	71	28.0	71	No explanation is given for the sudden increase in snow depth (Authors).
	27	28.0	71	24.0	61	
1976						
Jan	3	36.0	91	30.0	76	
	10	42.0	107	34.0	86	
	17	40.0	102	37.0	94	
	24	45.0	114	40.0	102	Ice measurement on this date was taken instead in front of the village.
	31	49.0	124	40.0	102	
Feb	7	49.0	124	39.0	99	
	14	52.0	132	36.0	91	Maximum ice thickness observed.
	21	50.0	127	35.0	89	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	28	50.0	127	37.0	94	
Mar	6	45.0	114	36.0	91	
	13	45.0	114	36.0	91	
	20	46.0	117	35.0	89	
	27	46.0	117	34.0	86	
Apr	3	46.0	117	30.0	76	
	10	45.5	116	28.0	71	
	17	44.0	112	18.0	46	
	24	40.0	102			Last ice measurement for the season. Snow on the ice melted quickly, now it is almost clear of snow. Surface smooth, and although the observer reported numerous ice cracks throughout the winter, the heavy snow cover questions the statement (Authors).
Chandalar Lake (Alaska):		**Measurements made in Chandalar Lake, 50 ft offshore in front of the observer's cabins.**				
1975						
Nov	1	13.0	33			First ice thickness measurement for the season.
	8	17.0	43			No snow on the ice during 13 and 18 Nov.
	15	21.0	53	0.5	1	
	22	25.0	64	1.0	3	
	30	28.0	71	1.0	3	
Dec	6	34.0	86	1.0	3	
	13	34.0	86	1.0	3	
	21	39.5	100	6.5	17	
	27	41.0	104	6.5	17	The ice cracks are 1/4 in. wide and run in every direction (i.e., no pattern). Snow cover is shielding the distribution of the cracks. Ice growth seems to be slow.
1976						
Jan	3	41.5	105	6.5	17	Surface smooth, few ice cracks observed since 1 Nov 1975.
	10	41.5	105	6.5	17	Ice cracks are no longer appearing on the snow surface.
	17	42.0	107	7.0	18	
	24	43.0	109	8.0	20	
	31	43.5	110	7.5	19	
Feb	7	44.0	112	11.0	28	
	14	47.0	119	11.0	28	
	21	50.0	127	11.5	29	
	29	51.5	131	12.0	30	
Mar	6	48.0	122	13.0	33	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	13	50.0	127	13.5	34	
	20	49.0	124	11.5	29	
	28	53.5	136	11.0	28	
Apr	3	51.0	130	12.5	32	
	10	52.0	132	14.0	36	
	18	53.5	136	13.0	33	
	25	54.5	138	11.0	28	Maximum ice thickness observed. Surface smooth or rippled and no ice cracks observed since 10 Jan.
May	1	54.0	137	7.5	19	Surface is pitted. Water is running out on the lake to about 75 ft out from the mouths of creeks. 1 in. of water on the ice.
	9	48.0	122	1.0	3	10 ft of open water between the ice and shore.
	17	43.0	109	0.5	1	Surface smooth, numerous ice cracks observed. 20 ft of open water along the shoreline.
	25	34.0	86			
	31	21.5	55			Last ice measurement for the season. No snow on the ice, and 40 ft of open water along the shoreline on 25 and 31 May.

Chena River (Alaska): Measurements made on the main channel of the Chena River at the Riverview Trailer Court on Badger Road, at distances of 30, 50 and 75 ft from the south shore.

1975

Oct	25					Main channel still believed to be ice-free.
	31	3.0	8	0.5	1	Note: 2 or 3 ice thickness measurements were given at this site. One value (that taken nearest to shore) will be shown in the tabulated columns and other 1 or 2 (at various distances) will be given in the Remarks column. The values for 31 Oct at 50 and 75 ft are 3 in. and 5 in. The ice formed outward from shore with the main channel having the newest and thinnest ice. Pressure from new ice in the main channel caused some small-scale ridging and rafting of ice near the south shore.
Nov	9	13.5	34	1.0	3	Nearest shore distance was 80 ft, and then at 90 ft = 9.5 in., and at 100 ft = 10 in.
	15	20.0	51	2.5	6	Nearest shore distance was 15 ft, and then at 35 ft = 18.5 in., and at 85 ft = 17 in.
	21	19.0	48	2.5	6	Nearest shore distance was 70 ft, and then at 80 ft = 13.5 in., and at 85 ft = 13 in. Observer notes that no explanation for the lack of ice growth during the past week is apparent. Air temperatures were low during the period.
	29	19.0	48	2.5	6	Nearest shore distance was 55 ft, and then at 60 ft = 23 in., and at 80 ft = 22 in. with 7.5 in snow at both sites. Observer again notes that no

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						explanation for the sudden ice growth during the past week is apparent. Air temperatures in the Fairbanks, Alaska, area were warm. It is also noted that the ice thickness are becoming more uniform at the 3 sites.
Dec	9	26.0	66	7.0	18	Nearest shore distance was 60 ft, and then at 75 ft = 24 in.
	16	29.0	74	8.0	20	Nearest shore distance was 60 ft, and then at 75 ft = 25.5 in.
	20	29.0	74	9.0	23	Nearest shore distance was 60 ft, and then at 75 ft = 25.5 in.
	27	31.0	79	8.0	20	Nearest shore distance was 45 ft, and then at 60 ft = 29 in., and at 75 ft = 25.5 in.
1976						
Jan	3	29.5	75	9.0	23	Nearest shore distance was 60 ft, and then at 75 ft = 27 in.
	10	30.5	77	9.0	23	Nearest shore distance was 60 ft, and then at 75 ft = 28.5 in.
	17	31.5	80	9.0	23	Nearest shore distance was 60 ft, and then at 75 ft = 29 in.
	24	32.0	81	10.5	27	Nearest shore distance was 60 ft, and then at 75 ft = 29 in.
	31	32.0	81	10.5	27	Nearest shore distance was 60 ft, and then at 70 ft = 30.5 in. A few old or refrozen ice cracks observed, but not at the ice measuring site.
Feb	7	33.0	84	10.0	25	The nearest shore distance during Feb was 60 ft and the second (all month) was 75 ft. The thickness at the second site was 30.5 in.
	14	34.0	86	10.0	25	At 75 ft = 32.5 in.
	21	36.0	91	10.0	25	At 75 ft = 34. in.
	28	36.0	91	10.5	27	At 75 ft = 35.5 in.
Mar	6	36.5	93	10.5	27	The distances from shore during Mar were the same as in Feb. On 6 Mar at 75 ft = 36 in.
	13	37.5	95	11.0	28	At 75 ft = 36.5 in. Also 0.5 in. water overflow at the measuring site on 6 and 13 Mar.
	20	37.5	95	11.5	29	At 75 ft = 37 in. No water overflow at the site, but some dirty water overflow near the south shore.
	27	37.0	94	12.5	32	At 75 ft = 37 in. Ice thickness at 60 ft location was slightly more than at 75 ft. Ice becoming easier to drill through, but not soft or slushy yet.
Apr	3	38.0	97	10.0	25	The distances from shore during April were, again, the same as in Feb. On 3 Apr at 75 ft = 36.5 in.
	10	38.0	97	7.0	18	At 75 ft = 37.5 in. The water rose level to the top of the drill hole on 3 and 10 Apr.
	17	38.0	97	4.5	11	At 75 ft = 38.5 in. The water rose to 1 in. below the top of the drill hole.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	24	41.0	104			At 75 ft = 39.5 in. Maximum ice thickness observed. The water rose to 2 to 3 in. below the top of the drill hole, with open water forming on the north shore (which is more exposed to the sun). Considerable softening of the ice is evident, but no ice movement as yet. A new fracture crack appeared parallel and close to the south shore.
	31					At 75 ft = 36 in. A trace of snow on the ice on 24 and 31 Apr. Last ice measurement for the season.
Chesterfield Inlet* (N.W.T.):		**Measurements made on Spurrel Inlet on Hudson Bay, approximately 2000 ft east of the Ministry of Transport operations building.**				
1975						
Oct	14					Slush ice began to form on the Inlet.
Nov	17					Mild air temperatures prevailed during past few weeks until now when the temperatures dropped and winds calmed and the Inlet froze over.
	28	18.0	46	2.0	5	First ice thickness measurement for the season.
Dec	19					A four-day-long storm with zero visibilities prevented taking an ice measurement.
1976						
Feb	15					No ice measurement due to blowing snow and zero visibility.
Apr	2	72.0	183	3.0	8	
	10	73.5	187	3.0	8	
	17	75.0	191	4.0	10	
	21	76.0	193	1.0	3	
	29	75.0	191	1.0	3	Last ice thickness measurement for the season. Surface moderately hummocked and no ice cracks observed since 5 Dec 1975.
	30	77.0	196	4.0	10	
May	6	77.5	197	2.0	5	
	14	78.0	198	1.0	3	Maximum ice thickness observed.
Jun	4					Numerous cracks have formed and the ice immediately adjacent to the shore was breaking up due to tidal action, conditions are hazardous.
Jul	28					The inlet is clear of ice.
Churchill* (MAN):		**Measurements made in Churchill Harbour, approximately 600 ft off the south end of the wharf.**				
1975						
Oct	27					First ice reported on this date.
Nov	28					Freeze-over reported on this date.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Dec	30	38.0	97			First ice thickness measurement for the season.
1976						
Jan	23	48.0	122			The hot-wire device to measure ice thickness is being tested. Snow on the ice has been removed by wind on 8, 16 and 23 Jan.
Feb	6	55.0	140			Hot-wire value = 58 in.
	13	57.0	145			Hot-wire value = 59 in.
	20	59.5	151			Hot-wire value = 62 in.
	27	62.5	159			Hot-wire value = 65.5 in. Snow cover depth on ice during Feb ranged from 0 to 18 in. in drifts. Very few ice cracks observed during Feb.
Mar	5	64.0	163			Hot-wire value = 67 in. Snow depths ranges from 0 to 18 in.
	12	67.0	170			Pressure ridging along the shore, large drifts observed.
	19	68.0	173			
Apr	2	70.0	178			Hot-wire value = 75 in. Maximum hot-wire ice thickness observed. Note: The Canadian referenced report gives 81 in. for this date, but the original data sheets read 70 in. (Authors).
	9	71.0	180			Maximum manual (hand) drill ice thickness measurement observed.
May	7	67.0	170			Last ice thickness measurement for the season. Snow depth varies from 0 to 10 in., and a few ice cracks observed.
	17					First ice deterioration and ice breaks reported on this date.
Jun	6					Bay is now reported to be clear of ice.
Clyde* (N.W.T.):		**Measurements made on Patricia Bay approximately 1,000 ft west of the station.**				
1975						
Oct	30					Freeze-up occurred
Nov	8	7.5	19			Freeze-over was reported on this date.
	14	13.0	33			No snow on the ice on 8 and 14 Nov.
1976						
Apr	23	45.0	114	20.0	51	
	30	50.0	127	15.0	38	
May	7	50.0	127	14.0	36	
	14	50.5	128	15.0	38	
	21	51.5	131	21.0	53	
	28	52.5	133	19.0	48	Surface smooth, and no ice cracks observed since 8 Nov 1975. Maximum ice thickness observed.
Jun	4	52.0	132	16.0	41	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11	47.0	119	17.0	43	
	18	47.0	119	11.0	28	
	25	46.0	117	3.0	8	Leads have formed on each shore, 2 to 10 in. wide.
Jul	2	51.0	130	2.0	5	
	9	49.5	126	3.0	8	Last ice measurement for the season. Surface smooth, few ice cracks observed from 4 June to 9 July.
	13					Ice breakup has started.
	30					Bay is now reported to be clear of ice.
Coppermine* (N.W.T.):		**Measurements made at the mouth of the Coppermine River, 150 yd NE of the Ministry of Transport boathouse.**				
1975						
Oct	7					First ice reported on this date.
Nov	3					Freeze-over reported on this date.
1976						
Jan	2	49.0	124	2.0	5	First ice thickness measurement for the season.
Mar	21	70.5	179	13.0	33	
	27	71.0	180	5.0	13	
Apr	7	73.5	187	16.0	41	Surface smooth, few ice cracks observed since 2 Jan.
	12	73.5	187	18.0	46	
	18	76.5	194	20.0	51	Maximum ice thickness observed.
	24	76.0	193	20.0	51	
	30	74.5	189	17.0	43	
May	8	74.0	188	8.0	20	
	15	76.0	193	11.0	28	Last ice thickness measurement for the season. Considerable water overflow on the ice. Surface lightly ridged, few ice cracks since 12 Apr.
	19					River is now reported to be free of ice.
Coral Harbour* (N.W.T.)		**Measurements made on Munn Bay, 300 yd SW of beach at SNAFU.**				
1975						
Nov	10					Ice began to form on this date.
	14	6.5	17			Ice measurement taken with hot-wire device. No snow on the ice.
	16					Ice was broken up by a storm on the 15th, and all the hot-wire equipment was lost.
	21					Ice reformed on the 20th, but still unsafe to walk on.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	28	14.0	36	1.0	3	Second attempt to conduct ice thickness measurements.
1976						
Feb	20	54.0	137	6.0	15	Surface smooth, no ice cracks observed since 14 Nov 1975.
	28					Ice auger became stuck in the ice. No measurement taken.
Apr	11	65.0	165	11.0	28	Observation delayed two days due to a storm.
	16					No observation because of adverse weather.
	23	69.0	175	8.0	20	
	30	73.0	185	9.0	23	
May	7	69.0	175	10.0	25	
	14	76.5	194	10.0	25	
	21	77.0	196	8.0	20	Maximum ice thickness observed. However, the observer notes that the ice measurements on and after 14 May were taken approximately 100 ft from the original site because the location marker was lost.
	28	74.0	188	9.0	23	Last ice thickness measurement for the season. Surface smooth, few ice cracks observed since 5 Mar.
Jun	1					Observer states that no further ice measurements were possible in June since the ice conditions appeared unsafe. Several large puddles and ice cracks by the end of June were observed.
	10					Ice deterioration is reported on this date.
Jul	14					Bay is now reported to be clear of ice.
Corner Brook* (NFLD):		**Measurements made on Humber Arm, 1500 ft off south shore east of Church Cove, opposite Rood Point on north shore and 2 mi. west of Bowater paper mill.**				
1975						
Dec	5					Small particles of new ice along both north and south shores of Humber Arm and around the dock area.
	12					Outer Humber Arm mostly open water. New ice forming in patches along the shore mouth of Humber River is open, but inner Arm off Corner Brook and Curling is covered with new ice.
	19					New ice cover from mouth of Humber River out to Meadows and along shores of Humber Arm. Open water on the outer part of the Arm with patches of drifting slush.
	26					A heavy rainfall, above-freezing temperatures and a strong wind broke the ice cover. Open water over all of Humber Arm with drifting patches of

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						new ice.
1976						
Jan	8					
	9	4.0	10	3.0	8	First ice thickness measurement for the season.
	30	6.0	15			3 to 4 in. slush on the ice. Due to wind and mild weather the ice cover at the outer Humber Arm has broken up as far in as Halfway Point. The inner Arm is still ice covered. A channel has been cut by shipping, and ice in dock area has been broken by Bowater tug.
Feb	27	11.0	28	7.0	18	Heavy rafted ice in the outer Bay of Islands.
Mar	5	13.0	33	6.0	15	
	12	14.0	36	6.0	15	Surface smooth, no ice cracks observed since 9 Jan.
	19	15.0	38	8.0	20	Maximum ice thickness observed.
	26	14.0	36	4.0	10	Open water at mouth of Humber River and along both the north and south shores. Ice sheet is covered with water and slush, which indicates an early breakup. Surface smooth, few ice cracks observed. Channel cut by shipping from outer Bay to the dock area is approximately 100 ft wide. Last ice thickness measurements for the season.
Apr	2					An ice breaker, with high temperatures and offshore easterly winds contributed to a quick and early ice break-up. The inner Arm (from Meadows inward) is clear of ice.
	9					Outer Humber Arm and Bay of Islands has open back ice drifting with the wind and tide. The inner Arm is all open water.
	16					All of Humber Arm and outer Bay of Islands, except for scattered small ice cakes, is free of ice.
Cree Lake* (SASK):		**Measurements made on Cable Bay which is part of Cree Lake, 100 yd off the station dock.**				
1975						
Nov	1					First permanent new ice reported on this date.
	21	3.5	9	1.0	3	First ice thickness measurement for the season.
	25					Freeze-over reported on this date.
1976						
Mar	12	28.5	72	14.0	36	
	19	29.0	74	12.0	30	
	26	29.5	75	11.0	28	Surface smooth, few to no ice cracks since 2 Nov 1975.
Apr	2	32.0	81	8.0	20	Maximum ice thickness observed.
	6					First ice deterioration or breaks reported.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9	30.0	76			2 in. of water and slush on the ice with a 1/2 in. ice layer on top.
	16	29.0	74			2 in. froze slush on the surface.
	23	28.0	71			Ice is porous and "poor." Surface smooth with few or numerous ice cracks since 2 Apr. Last ice thickness measurement for the season.
	30					Ice conditions unsafe, 15 ft open lead near shore.
May	25					Lake reported to be clear of ice on this date.
Eagle (Alaska):		**Measurements made on the Yukon River, mid-stream directly in front of the profile marker by the Customs House.**				
1975						
Oct	26					Date of first ice.
	28					Boating on the Yukon River ended.
Nov	3					Open water stream, 100 ft from ice measuring site.
	5					River ice stopped running.
	7					River ice safe to walk on.
	10	6.0	15			No snow on the ice. Ice depths across the river ranged from 6 to 8 in. Ice now safe for snowmobile use.
	15	11.0	28	4.0	10	Water overflow occurring all along river edges since 11 Nov.
	22	15.0	38	4.0	10	
	29	17.0	43	5.0	13	The 17-in. value was obtained at 150 ft downstream from an open water area. Another measurement midway between the river's bank and the open water the thickness was 24 in.
Dec	6	29.0	74	4.0	10	Air temperature was -42 deg. F with 25 mph wind.
	13					Air temperature -30 deg F and wind gusts of 25-30 mph.
	14	30.0	76	3.0	8	
	20	36.0	91	7.0	18	
	27	36.0	91	7.0	18	Open water observed 150 yd upstream from measuring site. Ice thickness 200 yd below open water was 24 in.
	29					Open water still exists.
1976						
Jan	3	28.0	71	6.0	15	
	10	28.0	71	7.0	18	
	15					Open area froze over.
	17	30.0	76	3.0	8	
	18					Ice thickness 14 in. in previous open area.
	24	30.0	76	5.0	13	Ice thickness taken directly in front of town was 20 in.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	31	30.0	76	6.0	15	
Feb	7	30.0	76	8.0	20	
	14	30.0	76	4.0	10	
	21	32.0	81	4.0	10	
	29	32.0	81	12.0	30	Maximum ice thickness and some snow drifts observed.
Mar	6	31.0	79	7.0	18	
	13	28.0	71	8.0	20	
	20	24.0	61	7.0	18	
	27	30.0	76	10.0	25	Observer notes that all the ice measurements are made within a distance of 150 ft of each other.
Apr	9	26.0	66	8.0	20	Snow cover has been hard-packed since 6 Mar. Lots of water gushed up the test hole.
	17					Two ice measurements made 50 yd apart gave thicknesses of 22 and 32 in. Surface smooth throughout the winter.
	20					Ice thickness at edge of river was 32 in. with 6 to 8 in. water on the ice.
	24					River unsafe, too much water.
Ennadai Lake* (N.W.T.):		**Measurements made on Ennadai Lake, 100 yd from shore on a line formed by the house front door and the flag pole.**				
1975						
Oct	22					First permanent new ice reported on this date.
	26					Lake froze over.
	31	8.5	22			First ice thickness measurement for the season.
Dec	26	28.5	72	4.0	10	Surface lightly ridged, few ice cracks observed since 31 Oct.
1976						
Mar	19	55.0	140	12.0	30	
	26	57.0	145	14.0	36	
Apr	2	54.0	137	16.0	41	
	9	53.0	135	13.0	33	
	16	57.0	145	16.0	41	
	23	58.0	147	12.0	30	Surface lightly ridged or rafted and numerous ice cracks since 26 Dec 1975.
	30	57.0	145	10.0	25	10-in. cover consists of 6 in. snow above 4 in. melted snow.
May	7	58.0	147	4.0	10	Maximum ice thickness observed on 23 Apr and 7 May.
	14	57.0	145	4.0	10	Surface smooth, with few or no ice cracks on 7 and 14 May.
	21					Deep water over the ice along the shore.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	22					Lake ice deterioration reported on this date.
	25					Shore leads forming.
	28					Ice has broken from shore.
	30					Leads are opening out on the lake.
Jun	4	34.0	86			Leads developing from shore into the lake and "almost continuous." This ice measurement was taken 500 yd north of the original site. Last ice observation for the season. Surface candled with no snow cover.
	21					Station area completely clear of ice.
Eureka* (N.W.T.):		**Measurements made on Slidre Fiord, 100 yd due south of the jetty.**				
1975						
Sep	16					First permanent new ice reported on this date.
	28					Freeze-over of Slidre Fiord reported on this date.
Oct	3	24.0	61	2.0	5	First ice thickness measurement for the season. Note: Since 2 thickness values are given, one using the hand drill and another using a hot-wire device up until the 30th of Jan 1976, both values are presented here so that comparisons of the results can be made. The hand drill values are given in the tabulation and the hot wire values in the Remarks columns. The hot-wire measurements were made within 10 ft of the hand drill site, and the value for 3 Oct was 25 in.
	10	27.0	69	2.0	5	Hot wire value = 30 in.
	17	31.0	79	2.0	5	Hot wire value = 34 in. Surface smooth, numerous ice cracks, and no leads observed.
	24			2.0	5	No hand drill value available, the hot wire value was 36 in.
	31	36.0	91	2.0	5	Hot wire value = 37 in. Surface smooth, numerous ice cracks, and no leads observed.
Nov	7	43.0	109	2.0	5	Hot wire value was 41 in.
	14	42.5	108	2.0	5	Hot wire value was 43.5 in.
	21	47.0	119	2.0	5	Hot wire value was 47 in.
	28	49.0	124	3.0	8	Hot wire value was 49.5 in. Surface smooth, few ice cracks observed during Nov.
Dec	5	52.0	132	3.0	8	Hot wire value was 50.5 in.
	12	56.0	142	3.0	8	hot wire value was 57 in.
	19	57.0	145	3.0	8	Hot wire value was 59.5 in.
	26	61.0	155	3.0	8	Hot wire value was 63 in. Surface smooth, numerous ice cracks observed during Dec.
1976						
Jan	2	63.0	160	4.0	10	Hot wire value was 65 in.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9	67.0	170	5.0	13	Hot wire value was 68 in.
	17	68.0	173	6.0	15	Hot wire value was 70 in.
	23	70.5	179	6.0	15	Hot wire value was 70 in.
	30	67.0	170	11.0	28	Hot wire value was 69 in. Note: The hot wire method was discontinued after 30 Jan since the wire could not be retracted from the ice.
Mar	5	77.0	196	13.0	33	Surface lightly ridged, few ice cracks observed since 6 Feb.
	27	82.0	208	15.0	38	Surface moderately to heavily ridged and numerous cracks observed since 12 Mar.
Apr	2	82.5	210	5.0	13	Surface smooth, few ice cracks observed.
	23	89.5	227	7.0	18	
	30	92.0	234	12.0	30	
May	8	90.0	229	15.0	38	
	14	92.0	234	15.0	38	
	21	93.0	236	15.0	38	
	29	93.0	236	18.0	46	No leads observed since 7 Nov 1975. Ice reported to be starting to deteriorate. A few seals were observed on the ice, and in other parts of the Fiord. Last 3 ft of the ice sheet was quite rotted.
Jun	4	94.0	239	22.0	56	Surface lightly ridged or rafted and few ice cracks observed since 9 Apr.
	10	96.5	245	10.0	25	Maximum ice thickness observed. Surface lightly ridged, many large cracks observed.
	12					Ice sheet "parted" from the shore, and conditions considered unsafe for further measurements.
	30					Ice sheet is 100 ft out from shore, and the ice edge location shifts slightly depending on the wind direction.
Fairbanks (Alaska):		**Measurements made on Smith Lake, 5.2 km north of the Fairbanks International Airport.**				
1975						
Oct	10					Observer notes that, as usual, freeze-up of the lake was very rapid. Following (the water temperature) turnover, freezing occurred with an early snow "acting to nucleate" everything.
	11	1.5	4			Ice thickness was approximated, surface is mushy.
	18	3.5	9			No snow on the ice. Water overflow during the past week, few ice cracks observed.
	25	6.0	15	2.5	6	Larger overflow since 18 Oct, but it did not inundate the entire snow cover. Snow entirely turned to depth hoar on the lake.
Nov	1	8.5	22	2.5	6	Very cold weather at the end of Oct caused a large increase in ice thickness.
	9	11.0	28	3.0	8	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	16	12.5	32	3.5	9	
	20					Cold period continued.
	23	13.5	34	3.5	9	Cold period continued until about this time.
	29	15.0	38	8.0	20	Ice cracks on this lake are rarely visible because they form infrequently and because the snow cover hides them.
Dec	7	16.5	42	7.0	18	
	14	18.0	46	7.0	18	
	21	19.0	48	9.0	23	
	28	20.0	51	8.5	22	No water overflow and not much snow.
1976						
Jan	4	20.5	52	9.0	23	
	11	22.5	57	9.0	23	
	18	22.5	57	10.0	25	
	25	22.0	56	12.0	30	
Feb	1	23.5	60	11.0	28	
	8					No ice measurement made.
	14	25.5	65	11.0	28	
	21	27.0	69	11.0	28	
	28	28.0	71	11.0	28	
Mar	6	28.5	72	11.0	28	
	13	29.0	74	15.0	38	
	20	29.0	74	13.0	33	
	27	29.5	75	12.5	32	Maximum ice thickness reported but it may have been exceeded at a later date because this is the last ice thickness measurement received. No explanation for the early termination is given. Surface smooth, no ice cracks visible since 25 Oct 1975. No water overflow observed during Jan, Feb and Mar.

Fort Chimo* (QUE): Measurements made on Stewart Lake, 5 mi. north of the station, approx. 500 ft from shore on SE corner of lake. Site similar to last year's location.

1975						
Oct	31					The lake started to freeze over at the beginning of Oct but subsequent warm periods made passage over the ice unsafe until late Nov.
Nov	1					Lake completely froze over on this date.
	21	11.5	29	2.0	5	First ice thickness measured for the season.
1976						
Mar	19	60.0	152	2.0	5	
	29	64.0	163	2.0	5	
Apr	2	58.0	147	1.0	3	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9	64.0	163	2.0	5	
	19	65.0	165	2.0	5	Maximum ice thickness observed. Observation taken on 19 instead of 16 April because of inclement weather.
	24	64.0	163	2.0	5	
May	4	60.5	154	1.0	3	Ice reported to be starting to deteriorate.
	7	55.5	141	5.0	13	
	15	47.0	119			Ice melting along the shore.
	21	49.5	126			Open water along the shore. Surface smooth, few to no ice cracks observed since 21 Nov 1975. Last ice thickness measurement for the season. No snow on the ice on 15 and 21 May.
	28					Ice survey ended due to open water all along the shore.
Fort Yukon (Alaska): Measurements made on Hospital Lake, near the Fort Yukon Airport.						
1975						
Oct	26	8.0	20	2.0	5	First ice thickness measurement for the season.
Nov	2	9.5	24	4.5	11	
	9	12.0	30	6.0	15	
	16	14.0	36	7.5	19	
	23	17.0	43	9.0	23	
	30	19.0	48	6.0	15	
Dec	7					No ice measurement, too cold (-65 deg. F).
	14	22.5	57	7.0	18	Air temperature was -48 deg. F. Surface smooth since 26 Oct.
	21	25.5	65	8.5	22	
	28	27.0	69	10.0	25	Surface lightly ridged on 21 and 28 Dec.
1976						
Jan	4	29.5	75	8.0	20	Surface smooth.
	11	31.0	79	8.0	20	
	18	32.0	81	9.5	24	
	25	35.5	90	13.0	33	Surface lightly ridged on 11, 18 and 25 Jan.
Feb	1	36.0	91	11.0	28	
	8	36.5	93	12.0	30	
	15	37.5	95	11.5	29	Surface drifted on 1, 8 and 15 Feb.
	22	37.5	95	12.0	30	
	29	39.0	99	11.0	28	Maximum ice thickness observed. Surface smooth on 22 and 19 Feb.
Mar	7	36.0	91	11.0	28	
	14	36.0	91	12.0	30	
	21	36.0	91	14.0	36	
	28	35.5	90	13.0	33	Last ice thickness for the season. Surface rippled

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						with "hard" snow cover.
Frobisher Bay* (N.W.T.):		**Measurements made on Koojessee Inlet, approximately 200 yd out from the Ministry of Transport Causeway.**				
1975						
Nov	8					First permanent new ice reported on this date.
	12					Freeze-over of the Inlet is reported on this date.
	21					Open shore lead located in the vicinity of the causeway and along the shoreline. Conditions considered unsafe for ice measurement.
	28	15.5	39			First ice measurement for the season. Open shore lead approx. 15 yd wide in the vicinity of the causeway.
1976						
Jan	23	41.0	104	2.0	5	
	30					No ice measurement made due to strong winds and blowing snow. The extreme wind chill factor made an observation inadvisable.
	31					No ice measurement made due to continued blizzard conditions.
Mar	19	55.0	140	3.0	8	Tidal cracks observed along the shoreline.
Apr	17	59.0	150	10.0	25	
	24	63.5	161	9.0	23	
	30	69.0	175	6.0	15	
May	7	64.5	164	3.0	8	
	14	70.0	178	3.0	8	
	22	70.0	178	9.0	23	Maximum ice thickness observed on 14 and 22 May. Ice observed to be soft beneath the surface. A few layers of water at about the 3-ft depth mark.
	28	65.0	165	2.0	5	
Jun	4	69.0	175	2.0	5	1 to 2 in. water on the ice.
	6					Ice reported to be starting to deteriorate.
	11	66.5	169	5.0	13	No water on the ice. Surface smooth, no ice cracks observed since 19 Dec 1975.
	18	58.0	147	1.0	3	Few puddles of water on the ice.
	25	46.0	117	1.0	3	Last ice thickness measurement for the season. Surface smooth, few ice cracks observed on 18 and 25 June.
Jul	11					Inlet reported to be clear of ice on this date.
Gimli* (MAN):		**Measurements made on Lake Winnipeg, 900 ft east of the breakwater at the east end of 4th Street South.**				

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1975						
Nov	21					First permanent new ice reported on this date.
Dec	11					Freeze-over of the area reported on this date.
	19	20.0	51	4.0	10	First ice thickness measurement for the season.
	26	23.0	58	6.0	15	
1976						
Jan	2	19.0	48	7.0	18	
	9	18.5	47	8.0	20	
	16	18.0	46	7.0	18	Water depth recorded on this date was 7 ft and 8 in. Observer wondered why the ice thickness decreased from 23 in. on 26 Dec 1975 to 18 in on this date. No further explanation was given except slightly warmer air temperatures from 19 Dec 75 to 5 Jan 76.
	23	23.5	60	5.0	13	Ice thickness value was double-checked, and observer notes that the measurement was taken within 10 ft of the previous reading.
Feb	6	27.0	69	7.0	18	
	13	35.5	90			Maximum ice thickness observed. However, the author believes this to be unrepresentative, as indicated from the following measured values. Snow depth on the ice varied from 3 to 9 in.
	20	26.5	67	10.0	25	
	27	26.5	67	9.0	23	
Mar	5	26.0	66			Total snow cover depth on the ice was 15 in. 5 to 6 in. new snow and 9 to 10 in. hard-packed.
	12	26.0	66	11.0	28	
	19	29.0	74	11.0	28	
	26	28.0	71	9.0	23	Last ice thickness measurement for the season. Surface has been smooth and hard-packed during most of the winter.
Apr	6					Ice sheet reported to be starting to deteriorate.
May	11					Lake is reported to be clear of ice on this date.
Goose Bay* (NFLD): Measurement made on Terrington Basin approximately 500 yd north of the jetty.						
1975						
Nov	8					First permanent new ice reported on this date.
Dec	2					Freeze-over reported to occur on this date.
	5	10.0	25			First ice thickness measurement for the season. Trace of snow on the ice.
1976						
Feb	13	20.5	52	25.0	64	Approximately 6 in. of slush formed between the snow and ice surface.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	20	20.5	52	20.0	51	In addition to the 20 in. of snow there was about 8 to 9 in. of slush on top of the ice sheet.
	27	29.5	75	16.0	41	The slush from previous weeks has frozen and formed a layer of new ice. There is 4 in. of water between the new and old ice. Total cover consists of 20 in. of old ice, plus 4 in. of water and 6 in. of newly formed ice.
Mar	4	30.0	76	10.0	25	Slush layer between the snow and ice sheet.
	11	37.0	94	7.0	18	The additional 7 in. of new ice formed from the freezing of melted snow.
	18	38.0	97	7.0	18	
	26	39.0	99	1.0	3	
Apr	2	33.0	84	1.0	3	Water observed on the surface.
	8	30.0	76	7.0	18	Water observed on the surface.
	15	29.0	74	5.0	13	
	23	32.0	81	1.0	3	Some new ice formed from freezing of melted snow.
	30	34.0	86	1.0	3	Maximum ice thickness observed.
May	7	26.5	67			Surface smooth, few to no ice cracks observed since 5 Dec 1975. No snow on the ice on this date. Last ice thickness measurement for the season.
	11					Ice reported to be starting to deteriorate on this date.
	13					Numerous holes, ice sheet now free from the shoreline, observer is unable to walk on the ice.
	21					Area reported to be clear of ice on this date.
Hall Beach* (N.W.T.) Measurement made on Foxe Basin, 100 yd off the end of the sealift wharf.						
1975						
Oct	1					First permanent new ice reported on this date.
	14					Freeze-over of the basin reported on this date.
	17	2.0	5	2.0	5	First ice thickness measurement for the season.
	31	17.5	44	1.0	3	Surface smooth with a few pressure ridges since 17 Oct. Open water observed about 1 mile from shore.
Nov	14	21.0	53	3.0	8	
	19					Lead about 2 mi. from shore opened up. Pressure ice where water and ice edge meet.
	21	31.0	79	3.0	8	Ice thickness value on this date appears unrepresentative, it may have been taken over rafted ice (Authors).
	28	22.0	56	2.0	5	Numerous ice cracks near shore. A lead is observed about 1 to 1-1/2 mi. from shore.
Dec	5	29.0	74	3.0	8	A lead is observed 3 mi. off shore.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Mar	26	78.0	198	5.0	13	Open water occasionally observed 1 mi from shore.
Apr	2	72.0	183	5.0	13	
	9	68.0	173	6.0	15	
	16					Ice measurements temporarily ended, auger was lost through the drilled hole.
May	15	71.0	180	6.0	15	
	21	73.0	185	10.0	25	
	28	76.0	193	8.0	20	Some ice movement noted depending on the tide and current.
Jun	5	77.5	197	8.0	20	
	11	87.0	221	6.0	15	Maximum ice thickness observed, but it appears to be unrepresentative according to the previous and later values (Authors).
	20	72.0	183	4.0	10	Surface smooth, few to no ice cracks observed since 7 Nov 1975. Open water observed at slightly over 1 mi. from shore during May and June.
	25	75.0	191	1.0	3	Last ice thickness measurement for the season. Numerous ice cracks observed.
Jul	27					Area reported to be clear of ice on this date.
Harrington Harbour* (QUE):		**Measurement made between Harrington Island and mainland, 340 deg. from Quebec Tele. Tower, 100 yd from small rock which rises at 1/4 tide.**				
1975						
Dec	23					Harbor froze over on this date.
	25					First crossing on ice by snowmobile on this date.
1976						
Jan	11	14.0	36	1.0	3	First ice thickness measurement for the season.
	16	17.5	44	6.0	15	
Feb	2					Ice cracks formed by high winds and sea motion.
	20	25.0	64	2.5	6	Surface smooth, few to no ice cracks since 16 Jan.
	27	25.0	64	7.0	18	Surface lightly ridged, no ice cracks observed.
Mar	6	28.5	72	11.0	28	Maximum ice thickness observed.
	12	28.0	71	12.0	30	
	20	26.5	67	14.0	36	
	27	19.0	48	2.0	5	
Apr	2	18.0	46			
	10	16.0	41			
	17	15.0	38			No snow on the ice from 2 to 17 Apr.
	25	13.5	34	2.0	5	Last ice thickness measurement for the season. Ice opened up around the tidal current points.
	26					Last ice crossing by the snowmobiles.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	30					Ice conditions considered unsafe to walk on.
Havre Ste. Pierre* (QUE):		**Measurement made on Mingan Channel, inside the Q.I.T. dock, between No. 1 and 2 dolphins and 32 yd from each dolphin.**				
1975						
Dec	20					"Water body" froze over on this date.
1976						
Jan	24	17.5	44	6.0	15	First ice thickness measurement for the season.
	31	20.0	51	14.0	36	Surface lightly ridged, no ice cracks observed on 24 and 31 Jan.
Feb	21	22.0	56	7.0	18	Channel wide open on this date.
	29	21.5	55	5.0	13	Channel still open.
Mar	6	24.0	61	8.0	20	Channel opening is now 200 ft wide.
	12	21.5	55	9.0	23	Surface lightly ridged, few tidal cracks, and snow cover hard-packed since 7 Feb. Channel has closed (temporarily) with very close packed broken ice.
	19	26.0	66	6.0	15	Maximum ice thickness observed. Snow cover is soft. Channel has re-opened. Last ice thickness for the season.
	26					Channel is wide open, and all ice has broken away and area is clear of ice.
Hopedale* (NFLD):		**Measurement made on Hopedale Harbour on a line from the USAF dock to Ellen Island.**				
1975						
Dec	8					First permanent new ice reported on this date.
	10					Freeze-over of harbour reported on this date.
1976						
Jan	12	3.5	9			First ice thickness measurement for the season. No snow on the ice.
	16					"Beaver" aircraft landed on the ice on this date.
	20	9.5	24	1.0	3	Measurement delayed one day due to poor weather condtiions. Surface smooth, no cracks observed during Jan.
Feb	20	30.0	76	13.5	34	Surface moderately ridged, no ice cracks on 6, 13 and 20 Feb.
	27	33.5	85	12.0	30	
Mar	5	39.5	100	10.0	25	
	12					No ice measurment taken on this date.
	19	48.0	122	12.0	30	Maximum ice thickness observed.
	26	43.0	109	10.0	25	Last ice thickness measurement for the season. No explanation given for the early termination

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						(Authors). Surface lightly ridged, no ice cracks on 5, 19 and 26 Mar.
May	27					Ice deterioration reported to have started.
Jun	19					Harbour reported to be clear of ice.
Inoucdjouac* (QUE):		**Measurement made on the Innuksuak River NE of the Hudson Bay Company dock, 600 ft from west shore, approx. 1/2 mi. from mouth of river.**				
1975						
Nov	6					First permanent new ice reported on this date.
Dec	9					Freeze-over of the river reported to occur on this date.
	19	32.0	81	3.0	8	First ice thickness measurement for the season.
1976						
Jan	11	45.5	116	2.0	5	Measurement delayed two days due to weather condtions.
	25	52.0	132	2.0	5	Measurement delayed two days due to weather conditions.
Apr	2	81.5	207	8.0	20	
	9	98.0	249	9.0	23	Maximum ice thickness observed. Although, this value appears not to be representative, the 94 in. observed on 23 and 30 April indicates that the greatest ice thickness for the season is close to the 98 in. value.
	17	82.0	208	7.0	18	
	23	94.0	239	6.0	15	
	30	94.0	239	3.0	8	
May	7	84.0	213	2.0	5	
	10					Ice sheet reported to be starting to deteriorate on this date.
	14	84.0	213	1.0	3	Ice sheet is covered with patches of slush and water 3 to 6 in. deep. Surface smooth, few to no ice cracks observed since 19 Dec 1975.
	21	87.0	221	1.0	3	
	28	66.0	168			Last ice thickness measurement for the season. Surface smooth, numerous ice cracks observed on 21 and 28 May. Ice sheet ice soft, and top is candled. Many holes with 2 to 3 ft of water.
Jun	3					Ice measurements ended due to dangerous ice conditions.
	13					River reported to be clear of ice on this date.
Inuvik* (N.W.T.):		**Measurement made on the east branch of the Mackenzie River, 80 yd offshore from the old N.T.C.L. town dock.**				

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1975						
Sep	24					First permanent new ice reported on this date.
Oct	12					River was completely frozen over by this date.
	19					Snowmobiles and dog teams now using the ice sheet.
	21					The hot-wire ice thickness measuring device was installed on this date.
	24	6.5	17	1.0	3	First ice thickness measurement for the season.
Nov	28	23.0	58	5.0	13	First time the hot-wire device worked, it gave an ice thickness value of 23.5 in.
1976						
Feb	20	46.0	117	8.0	20	
	27					No measurement made, the ice auger froze in the ice.
Mar	26	47.5	121	10.0	25	
Apr	2	53.0	135	11.0	28	
	9	52.0	132	10.0	25	
	16	53.0	135	12.0	30	
	23	53.0	135	12.0	30	Maximum ice thickness observed on 2, 16 and 23 Apr.
	28					Ice sheet reported to be starting to deteriorate on this date.
	30	46.0	117	6.0	15	Last ice thickness measurement. Surface smooth, few to no ice cracks observed since 24 Oct 1975.
May	1					About 1 ft of water running along the shore. Observer is unable to get on the ice due to rising and open water.
	7					Average river water level 16.4 ft.
	14					Average river water level 22.9 ft.
	21					Average river water level 24.5 ft.
	27					Ice moved out of the river on this date.
**Isachsen* (N.W.T.)"		**Measurement made on Louise Bay, 1/4 mi. SSE of the station, approximately 75 yd offshore.**				
1975						
Aug	22					First permanent new ice reported to form on this date.
	29					Bay reported to have frozen over on this date.
Sep	12	8.0	20	1.0	3	First ice thickness measurement for the season.
Dec	14	33.5	85	8.0	20	Ice measurement delayed two days due to high winds.
1976						

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Feb	22	56.0	142	8.0	20	
Apr	23	72.0	183	12.0	30	
	30	74.0	188	11.0	28	
May	7	80.0	203	11.0	28	Maximum ice thickness observed.
	14	75.5	192	15.0	38	
	21	76.0	193	20.0	51	
	28	77.0	196	15.0	38	
Jun	4	72.5	184	18.0	46	
	11	78.5	199	18.0	46	Last ice thickness measurement fo the season. Many puddles of water on the ice at this time. Surface smooth, few to no ice cracks observed since 12 Sep 1975.
Aug	13					Bay reported to be clear of ice on this date.

Island Lake * (MAN): Measurement made on Island Lake approximately 5000 ft SW of the A.E.S. site.

1975						
Nov	11					First permanent new ice reported to form on this date.
Dec	2					Island Lake completely frozen over on this date.
	5	8.0	20	5.0	13	First ice thickness measurement for the season.
	26	17.5	44	4.0	10	Snow cover hard with some drifts and also a few patches of slush and slush ice on the surface on 12, 19 and 26 Dec.
1976						
Jan	2	21.5	55	5.0	13	Occasional patches of slush ice approx. 2 in. thick. Ice thickness varied up to 7.5 in. between holes.
	10					7-ton tractor crossed the ice from Garden Hill to St. Theresa (8 mi.).
	16	23.5	60	5.0	13	
	17					17-ton tank truck and load using the winter road.
	19					Winter (ice) road officially opened.
Mar	12	33.5	85	10.0	25	
	19	35.5	90	11.0	28	
	26	37.0	94	10.0	25	Maximum ice thickness observed.
Apr	2	36.5	93	8.0	20	A few areas of slush ice observed. Surface smooth, no ice cracks since 12 Dec 1975.
	9	34.5	88	1.0	3	Ice surface almost totally covered with slush or water.
	12					Ice surface visibly deteriorating, small holes and open areas of water along shoreline beginning to appear.
	16	32.5	83			
	23	31.5	80			Last ice thickness measurement for the season. Large areas of ice beginning to candle. No snow

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						on the ice on 16 and 23 Apr. Surface smooth, few ice cracks observed since 9 Apr.
	30					Ice sheet is unsafe to walk on in many places.
May	22					Lake is reported to be free of ice on this date.
Johnson Point* (N.W.T.):		**Measurements made on Prince of Wales Strait, adjacent to the landing strip, 150 ft SE of an earthen landing barge ramp.**				
1975						
Sep	25					First permanent new ice reported to form on this date.
Nov	6					Freeze-over in the area is reported to occur on this date.
	21	28.0	71	1.0	3	First ice thickness measurement for the season. Snow cover is "soft."
	29	34.5	88	1.0	3	Large amount of rafted ice surrounding the observation site. Also some small hummocked ice and several bergy bits and growlers. Snow cover hard-packed.
Dec	14	43.0	109	1.0	3	Surface moderately ridged since 21 Nov.
	28	49.0	124	1.0	3	No leads observed since 21 Nov.
1976						
Jan	18	54.0	137	1.0	3	Surface heavily rafted. Few ice cracks observed since 21 Dec 1975.
Mar	28	82.0	208	1.0	3	
Apr	4	83.0	211	1.0	3	
	9	90.0	229	1.0	3	
	17	91.0	231	2.0	5	
	23	94.0	239	4.0	10	Maximum ice thickness observed. Last ice measurement for the season. No explanation for the early termination is given (Authors). Surface heavily rafted with hard-packed snow and numerous ice cracks since 25 Jan. No leads observed during most of the winter.
Jun	8					Ice sheet reported to be starting to deteriorate on this date.
Jul	30					Area is reported to be clear of ice on this date.
King Salmon (Alaska):		**Measurement made on Naknek River approximately 125 yd from the USAF boat docks in the main channel.**				
1975						
Oct	29					Ice formed and boating on the river ended on this date.
Nov	2					River ice safe to walk on.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	8	12.0	30	1.0	3	First ice thickness measurement for the season.
	13					Ice safe for snowmobile use.
	15	15.5	39	1.0	3	
	22	13.5	34			Ice cracks observed between 1 and 7 ft in length with no measureable width. Ice sheet was soft, believed to be due to warm temps. during past week. No snow on the ice.
	29	16.5	42	2.0	5	
Dec	6	19.0	48	1.5	4	Surface lightly ridged, with few or no ice cracks since 8 Nov.
	13	22.0	56	3.0	8	
	20	26.0	66	3.0	8	
	27	24.0	61	1.0	3	Overflow of water on the ice near shore.
1976						
Jan	3	31.0	79			No snow on the ice.
	10	30.0	76	4.0	10	
	17	29.0	74	1.0	3	
	24	30.0	76			No snow on the ice.
	31	32.0	81	0.5	1	Ice was soft and wet. A thin sheet of ice on top of the snow cover was believed to be rain that fell and froze on the ice.
Feb	7	39.0	99			No snow on the ice.
	14	34.0	86	2.0	5	
	21	36.0	91	1.0	3	
	28	37.5	95			No snow on the ice.
Mar	6	35.0	89			No snow on the ice.
	13	41.0	104			No snow on the ice.
	20	37.5	95	0.5	1	Surface smooth, few ice cracks observed since 13 Dec 1975.
	27	53.0	135	1.0	3	Maximum ice thickness observed. However, the observer notes that there was a lot of water overflow on the ice on 20 March due to high tides, which froze and produced the large change in ice thickness. Surface is lightly ridged.
Apr	3	41.0	104	0.5	1	
	10	40.0	102	0.5	1	Last ice thickness measurement for the season. Surface smooth, few to no ice cracks during most of winter.
	12					Parts of the river are ice-free.
	15					Ice measuring site is ice free.
	28					Between 19 and 28 Apr there was approx. 50 ft of ice between the shore and open water.
May	10					River now completely free of ice.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Koartak (A)* (QUE): Measurement made on Diana Bay, about 2 mi. NW of station. Note that Koartak (A) is shown as Koartak (B) in the Canadian reference.						
1975						
Nov	26					First permanent new ice reported to form on this date.
Dec	6					Freeze-over is reported to occur on this date.
	22	27.0	69			First ice thickness measurement was made about 500 yd north of the water survey shack.
	26					A storm had rafted the ice and thickness measured 56 in. at 75 yd from the original site. A new location will be made at a non-rafted site next week.
1976						
Jan	4	23.0	58			The new site is now 2 mi. NW of the station.
	9	24.0	61			No snow on the ice on 4 and 9 Jan. An ice measurement taken over rafted ice was 37 in. thick.
	31	29.0	74	3.0	8	Measurements on 16, 17, 23, 24, 25 and 30 Jan were delayed due to blowing winds and heavy drifting snow.
Apr	4	32.0	81	7.0	18	
	16	33.0	84	8.0	20	
	30	34.0	86	5.0	13	Maximum ice thickness observed on 26 and 30 April.
May	7	32.0	81	4.0	10	
	14	32.0	81	3.0	8	
	21	30.0	76			
	28	28.0	71			
Jun	4	25.0	64			
	11	21.5	55			Last ice thickness measurement for the season. No snow on the ice since 21 May. Surface smooth, few ice cracks since 4 Jan. One small lead appeared between Point and Small Island, about 75 ft wide.
	19					Lead appeared again, about 1 mi. wide and 3 mi. long.
Jul	9					Ice sheet reported to be starting to deteriorate at this time.
	29					Bay reported to be clear of ice on this date.
Koartak (B)* (QUE): Measurement made on Unnamed Lake, about 1/2 mi. SSW of Dept. of Energy sta. Note that Koartak (B) is shown as Koartak (A) in the Canadian Reference.						

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1975						
Nov	9	8.0	20			First ice thickness measurement for the season. No first ice or freeze-over information given (Authors). No snow on the ice. Stormy weather on 7 and 8 Nov.
Dec	22	31.0	79	1.0	3	Measurement delayed one day due to stormy weather.
1976						
Jan	31	44.0	112	1.0	3	Blowing and heavily drifting snow on 23, 24, 25 and 30 Jan.
Mar	25	59.5	151	1.0	3	
Apr	4	61.0	155	2.0	5	
	16	63.0	160	3.0	8	
	26	67.0	170	1.0	3	Stormy weather on 23 and 24 Apr. Maximum ice thickness observed.
	30	64.0	163	1.0	3	
May	7	63.0	160	2.0	5	
	14	65.0	165	1.0	3	Surface smooth, few ice cracks observed since 9 Nov 1975. Maximum ice thickness observed.
	21	62.0	157			
	28	59.0	150			
Jun	4	54.0	137			
	11	50.0	127			Last ice thickness measurement for the season. No snow on the ice since 21 May. Part of ice sheet is dangerous to walk on. Surface smooth, no ice cracks observed since 21 May. Most of the lake is now surrounded by open water.
	18					Ice program terminated for the season.
Kobuk (Alaska):		**Measurement made on Kobuk River in front of the village.**				
1975						
Sep	27					Date of first ice.
Oct	5					Boating on the river ended.
	17					Ice became safe to walk on (with caution).
	18	2.5	6	4.0	10	
	19					Water overflowing on the ice.
	24					Ice safe for snowmobile use.
	25	12.0	30	1.0	3	
Nov	1	14.0	36	1.0	3	
	8	17.0	43	1.0	3	
	15	22.0	56	1.0	3	
	22	24.0	61			No snow on the ice.
	29	24.0	61	7.0	18	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Dec	6	26.5	67	5.0	13	
	13	27.0	69	4.0	10	
	20	27.5	70	7.0	18	
	27	28.0	71	8.0	20	
1976						
Jan	3	29.0	74	6.0	15	
	11	30.0	76	6.0	15	
	17	32.0	81	6.5	17	
	24	33.0	84	6.0	15	
	31	34.0	86	7.0	18	
Feb	7	34.5	88	6.0	15	
	14	35.0	89	6.0	15	
	21	38.0	97	5.0	13	
	28	38.5	98	5.0	13	
Mar	7	38.0	97	5.0	13	
	13	36.0	91	7.0	18	
	20	35.0	89	7.0	18	
	27	36.0	91	7.0	18	
Apr	3	38.0	97	7.0	18	
	10	40.0	102	7.0	18	
	17	41.0	104	7.0	18	Maximum ice thickness observed.
	24	40.0	102	7.0	18	
May	1	40.0	102	3.0	8	Last ice thickness measured for the season. Puddles of water on the ice. Surface smooth, ice cracks not visible all winter.
	8					Ice sheet too dangerous to walk on. Open water along both shores, and many holes on the ice.
Kotzebue (Alaska):		**Measurement made on inner Kotzebue Sound, 50 yd from the beach.**				
1975						
Oct	3					Date of first ice.
	20					Boating on the sound ended.
	24					Ice now safe to walk on.
Nov	1	12.0	30	2.5	6	
	3					Pick-up truck now on the ice.
	8	18.0	46	3.0	8	
	15	23.0	58	3.0	8	
	22	27.0	69	3.0	8	
	29	29.0	74	3.5	9	
Dec	6	32.0	81	3.5	9	
	13	36.0	91	3.5	9	
	20	37.5	95	3.5	9	
	27	39.5	100	4.0	10	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Jan	3	40.5	103	3.5	9	
	10	42.5	108	3.5	9	
	17	45.0	114	3.5	9	
	24	48.0	122	3.5	9	
	31	49.5	126	4.0	10	
Feb	7	52.0	132	4.5	11	
	14	55.0	140	4.5	11	
	21	57.0	145	4.5	11	
	28	59.0	150	4.5	11	
Mar	6	61.0	155	5.0	13	
	13	62.0	157	5.5	14	
	20	63.0	160	5.5	14	
	27	64.0	163	7.0	18	
Apr	3	64.0	163	7.5	19	
	10	64.5	164	8.0	20	
	17	65.0	165	10.0	25	
	24	65.5	166	10.0	25	Maximum ice thickness observed.
May	1	65.0	165	9.0	23	
	8	64.5	164	9.0	23	
	15	63.5	161			
	22	52.5	133			
	29	39.0	99			Last ice thickness measurement for the season. No further information on the ice surface conditions or ice deterioration progress (Authors).
La Grande* (QUE):		**Measurement made on Lac Attila, 5 mi. SSE of La Grande Airport (53 33'N and 77 37'W). Meas. taken at extreme W of lake, 1,000 ft from its north bank.**				
1976						
Feb	13	27.0	69	8.0	20	First ice thickness measurement for the season. No informaton on first ice or freeze-over occurrences are given (Authors).
Mar	26	36.5	93	18.0	46	
Apr	2	38.0	97	14.0	36	
	9	38.5	98	13.0	33	Average snow depth values on the ice are given since 5 March. Surface lightly ridged, no ice cracks observed since 13 Feb.
	16	38.5	98	10.0	25	Surface moderately hummocked.
	23	40.0	102	8.0	20	Maximum ice thickness observed. Surface heavily hummocked.
	30	31.5	80	1.0	3	Snow cover granular since 16 Apr. At 10 ft from the bank with 40 in. of water, there is 28 in. of ice (with 5 layers of ice making it up). At several

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						locations there were up to 6 in. of water on the ice, mainly along the first 100 ft of the bank.
May	7	31.0	79	1.0	3	Ice measurements now being made closer to shore.
	14	27.5	70	0.5	1	
	21	14.0	36			Ice gone 4 to 5 ft from shore. Many fissures and gaps. Ice thickness was estimated. Ice thickness near shore was 6 in.
	28	6.0	15			Last ice thickness measurement for the season was estimated. NW wind all week pushed ice to the SE of the lake. No ice from center of the lake and toward the NW.
Jun	13					Lake reported to be clear of ice.
Mankomen Lake (Alaska):		**Measurements made on Mankomen Lake.**				
1975						
Oct	20					First ice formed on the lake on this date.
	22					Ice extended from shore to shore on this date.
	25	2.0	5	0.5	1	First ice thickness measurement for the season. No ice cracks or leads.
	28					Snow machines now on the ice.
Nov	1	10.5	27			
	8	18.0	46			
	15	23.0	58			Surface smooth, few ice cracks since 1 Nov.
	22	26.0	66			No snow on the ice since 1 Nov.
	29	27.0	69	1.0	3	
Dec	6	30.5	77			
	13	37.0	94			
	20	39.0	99			
	27	40.0	102			Slight drifting of snow on the ice surface during Dec.
1976						
Jan	3	41.5	105			
	10	44.0	112			
	17	47.0	119	1.5	4	
	24	49.0	124	1.0	3	
	31	50.0	127			
Feb	7	51.0	130			
	14	53.0	135	5.0	13	
	21	54.0	137			
	28	55.0	140			Little to no snow on the ice due to drifting during Jan and Feb.
Mar	6	56.0	142	6.0	15	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	13	58.0	147	3.0	8	
	20	58.0	147	2.0	5	
	27	58.5	149	2.0	5	
Apr	3	59.5	151			
	10	60.5	154			
	17	61.0	155			
	24	61.5	156			Maximum ice thickness observed.
	27					River becoming unsafe for man or machine.
	28					River starting to open.
	29					Boats now being used on the river.
May	1	60.0	152			Last ice thickness measurement for the season. No snow on the ice since 3 Apr. Numerous ice cracks observed since 22 Nov 1975.
	2					River water level now being recorded.
Matagami* (QUE):		**Measurement made on Bell River, 1000 ft in front of the Fecteau Air Services.**				
1975						
Nov	14					First permanent new ice reported on this date.
	28					Freeze-over of the river reported on this date.
1976						
Jan	2	18.0	46	10.0	25	First ice thickness measurement for the season.
Feb	6	32.0	81	6.0	15	
	13	33.5	85	10.0	25	
	20	34.0	86	11.0	28	
	27	35.0	89	12.0	30	Maximum ice thickness observed.
Mar	5	30.0	76	15.0	38	
	14	32.0	81	10.0	25	
	19	28.0	71	18.0	46	
	27	23.0	58	8.0	20	Surface smooth, no ice cracks observed since 2 Jan.
Apr	1	34.0	86			Last ice thickness measurement for the season. Surface rafted, few ice cracks observed. 2.5 ft of water overflow extending out 75 ft from shore.
McGrath (Alaska):		**Measurements made on the Kuskokwim River.**				
1975						
Oct	9					Observer notes that the area experienced a very mild, warm October. Ice first started running on the river as small ice cakes on this date.
	15					Ice ran heavy in the river until this date, with some days ice floes being thicker than other days over halfway across the stream.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	17					Boating ended on the river.
	29					Water stage very low and ice formed from shore to shore on this date.
	31					Ice sheet thickened to 4 in. by this date.
Nov	1	7.0	18			First ice thickness measurement for the season. No snow on the ice and surface is "semi-ridged."
	8	11.0	28	1.5	4	
	15	15.0	38	2.0	5	Large cracks or crevasses along shoreline.
	21					The numerous leads and open holes along the shoreline have frozen over.
	22	23.0	58	2.5	6	
	29	28.0	71	5.5	14	
Dec	6	27.0	69	6.0	15	
	13	28.0	71	5.5	14	
	20	29.0	74	6.0	15	
	27	30.0	76	7.0	18	Ice growth proceeding normally. Nov and Dec have been very cold. No water overflow observed.
1976						
Jan	3	29.0	74	15.0	38	
	10	30.5	77	16.0	41	
	17	31.0	79	17.0	43	
	24	33.0	84	18.0	46	
	31	33.0	84	19.0	48	
Feb	7	35.0	89	23.0	58	
	14	36.5	93	21.0	53	
	21	37.0	94	20.0	51	
	28	37.0	94	19.0	48	
Mar	6	38.0	97	27.0	69	1/4 in. water overflow on the ice.
	13	39.0	99	31.0	79	Maximum ice thickness observed.
	20	38.0	97	32.0	81	
	27	38.0	97	26.0	66	Snow cover is deeper and more dense than usual. Ice depth remains unchanged from between 37 and 39 in.
Apr	3	38.0	97	24.0	61	Snow cover dense since 3 Jan.
	10	36.5	93	20.0	51	
	11					Water overflow on the ice has started.
	17	35.0	89	17.0	43	
	18					Ice on both shores now covered with water. Yellow spots appearing on the ice.
	24	32.0	81	8.0	20	Last ice thickness measurement for the season. Surface lightly ridged, numerous ice cracks observed sine 8 Nov 1975. 11 in. of water overflow now at the observation site.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Moosonee* (ONT):		**Measurements made on the Moose River, 100 yd in front of the Hudson Bay staff house.**				
1975						
Nov	13					First permanent new ice reported on this date.
	20					Freeze-up observed.
	24					People walking across the river.
	27					Snowmobiles now on the ice.
	28	6.0	15	0.5	1	First ice thickness measurement for the season. A lead 10 yd wide located along the shore. Surface lightly ridged.
1976						
Jan	23	27.0	69	6.0	15	Surface moderately ridged, few ice cracks observed since 5 Dec 1975.
	30	28.5	72	7.0	18	Numerous ice cracks observed.
Mar	5	37.0	94	10.0	25	
	12	38.0	97	10.0	25	
	19	39.5	100	11.0	28	
	26	41.0	104	8.0	20	Last ice thickness measurement for the season because the ice auger was lost through the drill hole. This value, therefore, may not have been the maximum for the season. Surface moderately ridged, few ice cracks observed since 6 Feb.
Apr	9					Surface lightly ridged, few ice cracks observed on 2 and 9 Apr. Water overflow on the ice on this date.
	16					Ice sheet covered with 2 ft of water.
Mould Bay* (N.W.T.):		**Measurements made on Mould Bay, approximately 3/4 mi. off the west end of the runway.**				
1975						
Sep	3					First permanent new ice reported on this date.
	23					Freeze-over of the bay reported on this date.
	27	11.5	29	1.0	3	First ice thickness measurement for the season.
1976						
Mar	19	64.0	163	18.0	46	An ice crack approx. 2 ft wide and 3 ft deep developed along where last year's ice edge was located. The length of the crack is unknown.
Apr	16	71.0	180	18.0	46	
	23	74.0	188	19.0	48	
	30	69.0	175	22.0	56	The number of 1/4 in. ice cracks increased over the month. Isolated cases of rafted ice along the shallows are present, but no surface ridging or water openings have been observed.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
May	7	83.0	211	18.0	46	Maximum ice thickness observed. However, it appears that this measurement may be over rafted ice (Authors).
	14	70.0	178	26.0	66	
	21	70.0	178	23.0	58	
	28	70.0	178	23.0	58	The number of ice cracks increased during May, ranging in size from 2 to 4 in. Isolated areas of rafted ice along the shallows but still no ridges or openings noted.
Jun	4	72.0	183	19.0	48	
	11	70.0	178	15.0	38	
	18	75.0	191	14.0	36	Surface smooth, few to no ice cracks all winter. Some light ridging between old and new ice now. Large cracks, 2 ft wide, have developed along with numerous smaller ones on the ice surface. Meltwater from the river flowing over the ice to the west for 1/2 mile. Last ice thickness measurement for the season.
Natashquan* (QUE):		**Measurements made on the Petite Riviere Natashquan near the bridge.**				
1976						
Jan	18					Freeze-over of the river reported on this date.
Feb	6	22.5	57	1.0	3	First ice thickness measurement for the season. No ice cracks observed.
	27	30.5	77	1.0	3	Some ice cracks observed since 13 Feb. One lead 2 mi. long and 1/4 mi. wide observed.
Mar	5	32.0	81			No snow on the ice.
	12	34.5	88	3.0	8	
	19	36.0	91	2.0	5	Maximum ice thickness observed. No ice cracks observed since 5 Mar.
	26	31.5	80			Water flooded ice in some lcoations.
Apr	2	32.0	81			Last ice thickness measurement for the season.
	6					Ice broke up at measurement site.
Nicolet* (A) (QUE):		**Measurements made on Lake St. Peter of the St. Lawrence Seaway, at coordinates 46°12'45"N and 72°39'50".**				
1975						
Dec	8	6.0	15	2.0	5	First ice thickness measurement for the season.
	22	13.0	33	4.0	10	
1976						
Feb	10					No ice measurements were made from 2 Jan to 10 Feb 1976 were made because water overflow and ice conditions prevented access to the ice

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						measurement site.
	11	23.0	58	4.0	10	Snow cover is granular.
	23	25.5	65	17.0	43	Snow and ice values in the Canadian reference are incorrect on this date.
Mar	9	29.0	74	2.0	5	
	22	30.0	76	6.0	15	Maximum ice thickness observed. Last ice thickness measurement.
Nicolet* (B) (QUE):		**Measurements made on Lake St. Peter of the St. Lawrence Seaway, at coordinates 46°13'01"N and 72°42'00"W.**				
1975						
Dec	22	14.0	36	4.0	10	First ice thickness measurement for the season.
1976						
Feb	10					No ice measurements were made from 2 Jan to 10 Feb.
	11	27.0	69	3.0	8	New snowfall on the ice. Ice thickness at site 3 on this date was 22.5 in.
	23	28.5	72	15.0	38	
Mar	9	29.0	74	10.0	25	
	22	31.0	79	6.0	15	Maximum ice at this site.
Nicolet* (C) (Que):		**Measurements made on Lake St. Peter of the St. Lawrence Seaway, at coordinates 46° 10' 54" N and 72° 46' 09 " W.**				
1976						
Apr	0					
	0					
Nitchequon* (QUE):		**Measurements made on Lake Nichicun, 200 ft south of the town dock.**				
1975						
Oct	29					First permanent new ice reported on this date.
Nov	12					Freeze-over of the lake reported on this date.
	21	6.0	15	2.0	5	First ice thickness measurement for the season.
1976						
Mar	26	36.0	91	10.0	25	
Apr	2	42.0	107	5.0	13	
	9	38.5	98	12.0	30	
	16	44.0	112	7.0	18	
	23	47.0	119	4.0	10	Maximum ice thickness observed.
	30	42.0	107	5.0	13	
May	7	46.0	117	1.0	3	Surface smooth, no ice cracks observed since 21

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Nov 1975.
	14	42.0	107	5.0	13	
	18					Ice in the main part of the lake started to deteriorate.
	20					
	21	40.0	102	5.0	13	This last ice measurement for the season was taken from the dock. Surface smooth, not too many ice cracks observed.
Jun	8					Lake reported to be clear of ice.
Norman Wells* (N.W.T.):		**Measurements made on Mackenzie River. Nov 75 location 200 yd from shore, SW of R/S station. Dec 75 1000 yd from station's water supply pump house at 220 deg.**				
1975						
Oct	20					First permanent new ice reported on this date.
	26					River completely covered with ice on this date.
Nov	14	14.5	37	2.0	5	First ice thickness measurement for the season.
	28	24.0	61	4.0	10	No ice cracks observed during Nov.
1976						
Jan	23	47.0	119	8.0	20	
	27					Water survey ice measurement made at evenly spaced intervals across the river gave an average thickness value of 48 in.
	30	47.5	121	7.0	18	
Feb	6	49.0	124	7.0	18	Surfaced ridged, few ice cracks observed since 5 Dec 1975.
	20			8.0	20	No ice measurement, ice auger froze in the ice, and no power source for hot-wire device.
	27	54.5	138	8.0	20	Surface ridged, numerous ice cracks observed during 13, 20 and 27 Feb.
Mar	19	56.0	142	15.0	38	
	26	56.5	144	14.0	36	
Apr	2	57.0	145	12.0	30	
	9	57.0	145	13.0	33	Maximum ice thickness observed on 2 and 9 Apr.
	16	56.0	142	8.0	20	Last ice thickness measurement for the season.
	23					Ice observations terminated due to open leads (approximately) 5 yd wide along the shoreline.
May	7					Lake reported to be clear of ice on this date.
Northway (Alaska):		**Measurements made on the Chisana River, below the town bridge.**				
1975						
Oct	19					First ice on the Chisana and Nakona Rivers.
	24					Boating on the Chisana and Nakona Rivers ended.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Nov	16	20.0	51	2.0	5	First ice thickness measurement for the season.
	22	22.0	56	3.0	8	
	29	24.0	61	4.0	10	Snow cover is "light."
Dec	6	24.0	61	3.0	8	
	13	25.5	65	3.0	8	
	20	26.5	67	3.5	9	
	28	26.5	67	4.5	11	
1976						
Jan	3	24.5	62	2.5	6	
	10	24.5	62	2.5	6	
	17	24.0	61	3.0	8	Lots of new snow and warmer weather, 10 in. over land area.
	24	23.0	58	2.0	5	
	31	20.5	52	3.0	8	
Feb	7	19.0	48	11.0	28	
	14	28.0	71	13.0	33	
	21	29.0	74	13.0	33	
	27	32.0	81	13.0	33	
Mar	5	31.0	79	13.0	33	
	12	35.0	89	10.0	25	Maximum ice thickness observed.
	19	33.0	84	8.0	20	
	26	31.0	79	3.0	8	A few ice cracks have developed about 200 yd from observation site. Some open water on the river about 1.5 mi. from the bridge. A few areas are getting dangerous.
Apr	3	27.0	69	2.5	6	Last ice thickness measurement for the season. Surface smooth, few ice cracks observed since 14 Feb.
	10					Ice sheet is soft and dangerous.
	24					Unable to walk on the ice during the past 2 wks.
	27					Ice went out on this date.
Norway House (Forestry)* (MAN):		**Measurements made on Nelson River on the east side of Forestry Island adjacent to the dock.**				
1975						
Nov	20					River froze over during the third week of Nov.
	21	3.5	9			First ice thickness measurement for the season. No snow on the ice. Ice data are missing from the Canadian reference, so all the 1975-76 records will be included in this report (Authors). Surface reported to be "like a mirror."
	28	8.0	20	2.0	5	
Dec	5	15.0	38	3.0	8	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11	17.0	43	3.0	8	Surface smooth, few ice cracks observed since 28 Nov.
	21	23.0	58	3.0	8	
	26	27.0	69	4.0	10	Observer reports "very little snow."
1976						
Jan	3	28.0	71	4.0	10	
	10	29.0	74	4.0	10	
	24	34.0	86	7.0	18	Surface fairly smooth since 21 Dec 1975.
	31	34.0	86	10.0	25	High winds during Jan created a hard surface. Snow depth at ice measurement site varied due to blowing snow, numerous "swirls."
Feb	7	34.0	86	10.0	25	
	14	34.0	86	11.0	28	
	21	34.0	86	13.0	33	
	28	34.0	86	13.0	33	Cold-snaps and mild spells with windy days all contributed to a hard crust and a smooth snow surface on the lake.
Mar	6	34.0	86	14.0	36	
	12	34.0	86	14.0	36	
	18	34.0	86	9.0	23	
	25	34.0	86	6.0	15	Snow cover getting soft.
Apr	2	34.0	86	4.0	10	Surface smooth, no ice cracks observed since 3 Jan.
	9	34.0	86			Maximum ice thickness observed from 24 Jan until this date. No snow on the ice. Open water observed on the opposite shore.
	17	30.0	76	5.0	13	Blizzard conditions observed during 16 and 17 Apr. New snow and high winds gave 5 in. of snow on the ice, but numerous drifts exist.
	23	29.0	74			Last ice thickness measurement for the season. No snow on the ice.
	30					Ice has broken up, many open areas, some ice still in the lake.
May	1					Lake became clear of ice during May.
Nunivak (Alaska):		**Measurements made on Mekoryuk Bay.**				
1975						
Nov	1	2.0	5			First ice thickness measurement for the season.
	8	5.0	13			
	15	8.5	22			
	22	11.0	28			
	29	11.5	29			No snow on the ice during Nov.
Dec	6	16.0	41	0.5	1	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	13	19.5	50	1.0	3	
	20	22.0	56	1.0	3	
	27	24.0	61	3.0	8	
1976						
Jan	3	30.0	76	4.0	10	
	10	31.5	80	4.0	10	
	17	32.0	81	4.5	11	
	24	32.5	83	4.5	11	
	30	33.5	85	5.0	13	
Feb	7	34.5	88	6.0	15	
	14	35.5	90	6.0	15	
	21	36.0	91	6.5	17	
	28	36.5	93	7.0	18	Maximum ice thickness observed. Surface rough, many ice cracks observed since 1 Nov 1975.
Mar	6	30.0	76	5.0	13	
	13	31.0	79	5.0	13	
	20	31.0	79	5.5	14	
	27	32.0	81	5.5	14	Surface smooth, few ice cracks reported during March.
Apr	3	31.0	79	6.0	15	
	10	30.5	77	6.5	17	
	17	30.0	76	7.0	18	
	24	29.5	75	8.0	20	No surface conditions information given during April (Authors).
May	1	20.0	51	4.0	10	Surface rough, many ice cracks observed.
	8	18.0	46	3.0	8	Open lead observed in the channel.
	15	16.0	41	2.0	5	Last ice thickness measurement for the season. The open lead has expanded farther out toward the sea.
	22					Ice has broken entirely.
	29					Only floating ice cakes remain.
Pond Inlet* (N.W.T.)		**Measurements made in the Inlet, approx. 800 m offshore, bearing 320° from the R.C. Church. Site is similar to last year's location.**				
1975						
Nov	30					Inlet frozen over on this date.
Dec	5	19.0	48	2.0	5	First ice thickness measurement for the season. Ice observation taken with the SIPRE coring auger equipment.
	31	31.0	79	7.0	18	Surface "flat," no ice cracks observed during Dec.
1976						
Jan	16	40.0	102	3.0	8	This site, referred to as "Met Ice Station" is Ocean Station #1 for the on-going Base Line Data

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Collection Program. The ice thickness observations taken from the SIPRE coring auger are checked with values from the hot-wire device and the standard ice auger. The station is also taking ice temperature readings every 10 cm down to 2 m every week at 4 locations across Eclipse Sound (since 15 Jan).
Apr	23	67.0	170	4.5	11	
	30	74.0	188	7.0	18	
May	7	72.5	184	5.5	14	
	14	76.0	193	5.0	13	
	21	77.0	196	5.0	13	Maximum ice thickness observed.
	28	76.0	193	5.0	13	
	31	76.0	193	5.0	13	Last ice thickness measurement for the season. Ice sheet deterioration commenced on about 19 May.
Jun	18					The Canadian reference reports that first ice deterioration started on this date.
Aug	29					Area reported to be clear of ice on this date.
Port Alfred* (QUE):		**Measurements made on Baie des Ha Ha (Sequency River), 500 ft south of the Bagotville pier and 400 ft from shore.**				
1975						
Dec	13					Freeze-up on the area was reported on this date.
1976						
Jan	2	22.5	57	9.0	23	First ice thickness measurement for the season.
	31	31.5	80	14.0	36	Last ice thickness measurement for the season. Probably not the maximum ice thickness observed. No further information given (Authors).
Port Alsworth (Alaska):		**Measurements made on Hardenbourg Bay of Lake Clark.**				
1975						
Oct	31					This is the first time the Bay froze and stayed frozen. Other years the ice would break up and re-freeze, but not this year. Lots of salmon in the bay during freeze-up.
Nov	1	6.0	15			First ice thickness measurement for the season.
	8	12.5	32			No snow on the ice during 6 and 8 Nov.
	15	14.5	37	3.0	8	
	22	12.5	32			No snow on the ice.
	29	16.0	41	1.0	3	
Dec	6	25.5	65	1.0	3	
	13	26.0	66	10.0	25	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	20	27.0	69			Snow drifts observed.
	27	23.0	58			Surface smooth, few ice cracks observed since 1 Nov. No snow depths given on 20 and 27 Dec.
1976						
Jan	3	25.5	65	6.0	15	
	10	29.0	74	6.0	15	
	17	33.5	85			
	23					Mt. Augustine eruption was seen from the station with ash extending to approx. 40,000 ft. Lightning, and very loud explosions were heard.
	24	34.5	88			Measured 1/8 in. volcanic ash on the Bay. The main lake (Lake Clark) had drifted volcanic ash to depths of 6 in. No snow depths on the ice given on 17 and 24 Jan.
	31	34.5	88	1.0	3	Surface rough, no ice cracks observed from 10 to 31 Jan.
Feb	7	36.0	91	0.5	1	Snow cover is "light."
	14	38.5	98	2.0	5	Snow cover is "fluffy."
	21	40.5	103	2.0	5	Snow cover is granular.
	28	44.0	112	2.0	5	Snow cover is granular. Ice cover is in "good condition." There is 1/8 in. of volcanic ash under the snow cover.
Mar	6	42.0	107			3 in. of water on the surface at the measuring site and water on the ice 1 ft deep in the middle of the bay and along the edges.
	13	46.0	117	1.0	3	Snow cover is "fluffy."
	20	46.0	117	1.0	3	Snow cover is "fluffy."
	27	47.0	119	6.0	15	Snow cover is granular. Surface smooth, no ice cracks observed since 7 Feb.
Apr	3	46.0	117			No snow on the ice.
	10	46.0	117	2.0	5	Snow cover is granular.
	17	47.0	119			Maximum ice observed on 27 Mar and 17 Apr. Two in. of crystallized ice, and small, open areas observed in the narrows.
	24	43.0	109			Surface rough, few ice cracks observed during April. Slush and crystallized ice along all shores. Numerous holes around the edges. Narrows are opened across the channel. Ducks and swans on the open water in the channel.
May	1	40.0	102			
	7	36.0	91			5 in. of honey-combed ice.
	15	20.0	51			
	22	12.0	30			6 in. honey-combed ice. Bay is now 1/3 open. Last ice thickness measurement for the season. Surface rough with numerous holes during May. No snow on the ice since 17 April.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26					Few pieces of ice along the edges. Bay is open, remaining floating ice pieces are from Lake Clark. Upper end of Lake Clark is open, but lower end below the islands still solid ice.
Poste de la Baleine* (QUE):		**Measurements made on the Great Whale River, 2 mi. from the mouth of the river and 60 yd from the south shore.**				
1975						
Dec	3					First permanent new ice reported on this date.
	8					Freeze-over in the area reported to occur on this date.
1976						
Feb	5	45.0	114	7.0	18	First ice thickness measurement for the season.
	26	42.5	108	4.5	11	Surface ranged from lightly to heavily ridged during Feb. Some ice cracks due to low and high tides of Hudson Bay observed.
Mar	15	45.0	114	7.0	18	
	22	43.5	110	8.0	20	Surface moderately ridged, few to many ice cracks observed since 1 Mar. A heavy snowmobile was used on the river ice during all months.
Apr	1	48.0	122	3.0	8	
	8	50.0	127	11.0	28	Maximum ice thickness observed. Surface lightly ridged, few ice cracks observed on 1 and 8 Apr. Last ice thickness measurement for the season.
	15					Ice too soft for further measurements.
Jun	1					River reported to be clear of ice on this date.
Primrose Lake* (ALTA)		**Measurements made on Primrose Lake, 200 yards NE of town dock.**				
1975						
Dec	15	12.0	30	8.0	20	First ice thickness measurement for the season.
1976						
Jan	28	24.0	61	9.0	23	
Feb	5	25.0	64	9.0	23	
	23	18.0	46	6.0	15	
Mar	2	21.0	53	6.0	15	
	9	22.5	57	8.0	20	
	15	25.0	64	6.5	17	Maximum ice thickness observed on 5 Feb and 15 Mar. Surface smooth, few ice cracks observed on 2, 9 and 15 Mar.
	24	20.5	52	5.5	14	Water over-running on the ice in spots.
	31	21.0	53	2.0	5	Last ice thickness measurement for the season.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	7					Ice in the SW bay section of the lake was still exists, but ice was too soft to take a measurement.
Rampart II (Alaska):		**Measurements made on the Yukon River, 150 yards offshore from the point where the "back" school road joins the village road.**				
1975						
Nov	1					Ice running in the river.
	4					River ice has jammed and froze on this date.
	7					Ice now safe to travel on.
	8	3.0	8			The area in front of town is mostly free of drift ice. The mid-channel area is frozen over and smooth. Extensive water overflow on the surface, with unusually heavy ridging of shore ice on both sides of the river. No snow on the ice.
	15	15.0	38	2.5	6	
	22	17.5	44	2.5	6	
	29	19.0	48	3.0	8	One open hole about 1/3 mi. long and 100 yd wide observed up-river where Squaw Creek enters the Yukon River from the north.
Dec	6	21.5	55	0.5	1	
	13	29.0	74	0.5	1	
	20	33.0	84	6.0	15	
	27	33.5	85	6.0	15	
1976						
Jan	3	34.0	86	6.0	15	
	10	36.0	91	6.0	15	
	17	37.0	94	7.0	18	
	24	39.0	99	7.0	18	
	31	40.0	102	8.0	20	Starting on 1 Jan 1976 the ice thickness measurements are stated as being made on the Yukon River, 100 yd offshore from the magistrate's office.
Feb	7	40.0	102	8.0	20	
	14	41.0	104	8.0	20	
	21	43.0	109	8.0	20	
	28	43.5	110	11.0	28	
Mar	6	53.0	135	8.0	20	
	13	56.5	144	8.0	20	
	20	58.5	149	10.0	25	
	27	60.0	152	12.0	30	Surface smooth, no ice cracks observed since 15 Nov 1975. Snow cover moderate to dence since 6 Dec 1975. Snow now becoming increasingly dense and crystalline during the daytime warmer temperatures.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	3	61.0	155	14.0	36	Maximum ice thickness observed.
	10	60.5	154	10.0	25	
	17	60.0	152	8.0	20	Snow cover dense, no ice cracks on 3, 10 and 17 Apr.
	21					Water starting to appear on the ice.
	24	60.5	154	6.0	15	Ice surface is waterlogged.
	30					River ice now flooded and beginning to float in places.
May	2	60.0	152			Last ice thickness measurement for the season. Surface now slushy with numerous ice cracks.
	9					Ice sheet too dangerous for further measurements. Breakup has started with first movement observed at 10:30 PM.
	15					The river would have been sufficiently clear of ice to permit boating but shore ice prevented access to the river.
	31					Water levels remained very low throughout May with shore ice melting on the beach as levels never rose enough to wash it away.
Resolute* (N.W.T.):		**Measurements made on Resolute Bay, 100 yd SSE of the tidal shack toward the center of the Bay.**				
1975						
Oct	31	40.0	102	2.0	5	First ice thickness measurement for the season.
Nov	28	49.0	124	3.0	8	Surface smooth, few ice cracks since 31 Oct.
Dec	26	56.0	142	4.0	10	Ice auger used for all observations. All the measurements are taken within a 100 ft radius of the selected site.
1976						
Apr	23	83.5	212	10.0	25	
	30	85.0	216	18.0	46	
May	7	86.5	220	15.0	38	
	14	87.0	221	12.0	30	
	22	89.0	226	18.0	46	Surface light to moderately ridged and few ice cracks observed since 14 Nov 1975.
	28	89.0	226	18.0	46	Maximum ice thickness observed on 22 and 28 May.
Jun	4	87.5	222	18.0	46	
	11	88.0	224	18.0	46	
	15					Ice starting to deteriorate.
	18	84.5	215	16.0	41	Last ice thickness measurement for the season. Surface light to moderately ridged, few to numerous ice cracks observed since 28 May.
	25					Ice sheet no longer suitable (for travel), not thick

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						or dense enough. Observation from shore lists some large ice cracks, 20 in. of slush from last year's ice and surface ridged and hummocked.
Aug	6					Bay reported to be clear of ice.
Sachs Harbour* (N.W.T.):		**Measurements made on Amundsen Gulf, 50 yd from shore south of the R.C.M.P. office.**				
1975						
Sep	14					First permanent new ice reported on this date.
	23					Bay completely frozen over on this date.
Oct	12	14.5	37	1.0	3	First ice thickness measurement for the season.
Dec	26	51.0	130	1.0	3	Observer states that this value may be "doubtful" due to missing measuring tape.
1976						
Mar	5	66.0	168	4.0	10	Surface lightly rafted or hummocked, few ice cracks observed since 12 Oct 1975.
Apr	16	76.0	193	6.0	15	
	23	77.0	196	5.0	13	
	30	75.0	191	5.0	13	Surface lightly hummocked, no ice cracks since 12 Mar.
May	7	77.5	197	4.0	10	
	14	78.0	198	4.0	10	
	21	78.0	198	4.0	10	Maximum ice thickness observed on 14 and 21 May.
	28	71.0	180			Quick spring melting, left no snow cover, and water on the ice.
Jun	4	60.5	154			Last ice thickness measurement for the season. Surface lightly to moderately hummocked and few to numerous ice cracks observed since 7 May. Ice deteriorating has started. A lead approx. 1 ft wide extends to the horizon. Open water reported 10 mi. from entrance of harbour by inbound aircraft on 2 June.
	10					Unable to reach ice sheet due to open water along shore out to 15 to 30 ft.
	27					Bay became clear of ice on this date.
Sault Ste. Marie* (A) (ONT):		**Measurements made 1700 ft west of the lock. NOTE: All the sites given for this station are assumed to be located with reference to Canadian Lock.**				
1975						
Dec	15					First permanent new ice reported on this date.
1976						

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Jan	15					Freeze-over reported to occur on this date.
Feb	3	3.0	8	3.0	8	First ice thickness measurement for the season. 2 in. of slush over a layer of shell ice observed.
	10	3.0	8	1.0	3	
	17	4.0	10	4.0	10	
	24	2.5	6	5.0	13	
Mar	1	4.0	10	5.0	13	Maximum ice thickness observed on 17 Feb and 1 Mar.
	8					Zero ice thickness, but 3 in. snow reported on this date.
	15	2.0	5	2.0	5	
	22	2.0	5	1.0	3	Last ice thickness measurement for the season.
	30					Ice deterioration reported on this date.
Apr	21					Area reported to be clear of ice on this date.
Sault Ste. Marie* (B) (ONT):		**Measurements made 2000 ft west of the lock.**				
1976						
Feb	3	7.5	19	1.5	4	First ice thickness measurement for the season. Slush observed over a layer of shell ice.
	10	7.5	19	3.0	8	
	17	10.0	25	7.0	18	Maximum ice thickness observed.
	24	6.0	15	3.0	8	
Mar	1	9.0	23	4.0	10	
	8	4.0	10	3.0	8	
	15	2.0	5	3.0	8	
	22	2.0	5	1.0	3	Last ice thickness measurement for the season. 1.5 to 2 in. slush observed on the ice during most of Feb and Mar.
Sault Ste. Marie* (C) (ONT):		**Measurement made 300 ft east of the Lock.**				
1976						
Feb	24					Ice conditions too dangerous to make ice thickness measurements during Feb at this site.
Mar	29					Ice conditions continued to be too dangerous to make measurements during March.
Sault Ste. Marie* (D) (ONT):		**Measurement made 600 ft east of the Lock.**				
1976						
Feb	3	7.5	19	1.5	4	First ice thickness measurement of the season, also

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						the maximum ice thickness observed.
	10	3.0	8	2.0	5	
	17	3.0	8	5.0	13	
	24	5.0	13	1.0	3	
Mar	1	4.0	10	3.0	8	
	8	2.0	5	6.0	15	
	15	1.5	4	1.0	3	
	22	2.0	5	0.5	1	Last ice thickness measurement for the season.
Schefferville* (QUE): Measurement made on Knob Lake.						
1975						
Nov	3					First permanent new ice reported on this date.
	5					Freeze-over of the lake reported to occur on this date.
	11	7.0	18	3.0	8	First ice thickness measurement for the season.
Dec	3	18.5	47	0.5	1	10 in. white ice, 8.5 in. black ice. Surface smooth.
	12	25.5	65	2.0	5	2.6 in. white ice, 22.9 in. black ice.
	23	31.0	79	4.0	10	3.7 in. white ice, 27.3 in. black ice.
1976						
Jan	9	23.5	60	11.0	28	2 in. white ice, 21.5 in. black ice.
	22	27.5	70	10.0	25	2.5 in. white ice, 25 in. black ice.
	29	33.5	85	11.0	28	4 in. white ice, 29.5 in. black ice. Surface lightly ridged, no ice cracks observed since 12 Dec 1975.
Feb	7	30.5	77	18.0	46	1 in. white ice, 29.5 in. black ice.
	13	34.5	88	12.5	32	2 in. white ice, 32.5 in. black ice.
	20	36.5	93	9.5	24	3.6 in. white ice, 33 in. black ice.
	27	38.5	98	13.0	33	3.5 in. white ice, 35 in. black ice.
Mar	2	41.5	105	11.0	28	3 in. white ice, 38.5 in. black ice.
	12	37.5	95	12.5	32	2.2 in. white ice, 35.5 in. black ice.
	20	42.5	108	12.0	30	3 in. white ice, 39.5 in. black ice.
	26	44.5	113	17.0	43	3.1 in. white ice, 41.4 in. black ice. Observer notes that the ice measurements are being made in the center of the lake.
Apr	2					No measurements given.
	10	45.5	116	16.0	41	Maximum ice thickness observed.
	19	42.0	107	11.5	29	
	23	41.0	104	14.0	36	
	30	40.0	102	12.5	32	Last ice thickness measurement for the season. Surface soft during April with 3 to 9 in. of slush observed.
May	11					Ice sheet started to deteriorate.
Jun	22					Lake clear of ice on this date.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Shepherd Bay* (N.W.T.)		**Measurement made on Shepherd Bay, 300 ft offshore of north bulk fuel storage tank.**				
1975						
Oct	11					First permanent new ice reported on this date. Ice thickness estimated to be 0.5 in. with no snow on the ice.
	16	2.0	5	1.0	3	First measured ice thickness for the season. Surface moderately ridged.
	23	6.0	15	1.0	3	Few ice cracks observed on 16 and 23 Oct.
1976						
Jan	24	59.0	150	4.0	10	
Feb	3	63.0	160	4.0	10	
	10	66.0	168	4.0	10	
	17	70.0	178	4.0	10	
	24	72.0	183	4.0	10	Since the Feb data were not included in the Candaina reference, the information is given here for record purposes (Authors).
Mar	2	66.0	168	5.0	13	
	9	70.0	178	5.0	13	
	16	73.0	185	6.0	15	
	23	74.0	188	6.0	15	
	29	74.0	188	6.0	15	Maximum ice thickness observed to date. Since this is the last measurement received it is possible that the value was later exceeded (Authors).
Jun	1					First ice deterioration reported to occur on this date.
Snowshoe Lake (Alaska):		**Measurement made on the east shore of Snowshoe Lake, approx. 200 yd west of Aircraft Charter Facilities.**				
1975						
Oct	7					First ice formed in a bay in the SW corner of the lake.
	9					Ice increased through the shallow water to approx. 250 yd from shore in the south end and remained so until colder temperatures occurred.
	18					Rest of the lake froze except for about 3 acres over the deepest port.
	26					Entire lake now frozen over, but still unsafe to walk on.
	27	3.0	8			First ice thickness measurement for the season.
	30					Lake now safe for vehicles and ski-equipped aircraft. Area is practically free of any snow. Ice

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						cracks observed over the entire lake.
Nov	1	10.5	27			Trace of snow on the ice.
	8	16.0	41	0.5	1	Snow cover includes frost. Surface smooth, numerous ice cracks since 27 Oct.
	15	18.0	46	1.5	4	
	22	20.5	52	2.0	5	Snow cover density = 0.110 g/cm^3.
	29	22.5	57	2.5	6	Snow cover density = 0.120 g/cm^3. Observer notes that the ice thickness on this date is as thick as the average value generally recorded by early or mid-Feb. Indicates possible maximum values of 3-1/2 to 4 ft as it was some years ago. Surface smooth, few ice cracks since 15 Nov.
Dec	6	25.5	65	2.0	5	Snow cover density = 0.134 g/cm^3.
	13	27.0	69	3.0	8	Snow cover density = 0.148 g/cm^3. surface smooth, numerous ice cracks on 6 and 13 Dec. Cracks seem to generally run NE to SW, but some in all directions.
	20	28.5	72	12.0	30	Snow cover density = 0.138 g/cm^3.
	27	29.5	75	10.0	25	Snow cover density = 0.170 g/cm^3. Observer noticed that the shore ice in the north and east region from the ice measuring site would rise and fall approximately over "a sort of reef" area that is located along the shoreline and out about 25 ft from shore. Surface lightly ridged on 20 and 27 Dec.
1976						
Jan	3	29.5	75	10.0	25	Snow cover density = 0.211 g/cm^3.
	10	31.0	79	10.0	25	Snow cover density = 0.236 g/cm^3.
	17	32.0	81	10.0	25	Snow cover density = 0.215 g/cm^3.
	24	32.5	83	13.0	33	Snow cover density = 0.208 g/cm^3. Snow cover depth varied from 12.5 to 14 in.
	31	33.0	84	13.5	34	Snow cover density = 0.213 g/cm^3. Snow cover depth varied from 12.5 to 14.5 in. Surface smooth during Jan.
Feb	7	33.0	84	14.0	36	Snow cover density = 0.196 g/cm^3.
	14	33.5	85	14.0	36	Snow cover density = 0.191 g/cm^3. Few ice cracks observed since 20 Dec 1975.
	21	34.0	86	14.5	37	Snow cover density = 0.201 g/cm^3. Ice cracks seem to be running generally north to south (or vice versa) but a few cut across from SE to NW.
	28	34.5	88	14.0	36	Snow cover density = 0.201 g/cm^3/ Snow depth quite uniform during Feb. Numerous ice cracks during 21 and 28 Feb.
Mar	6	34.5	88	14.0	36	Snow cover density = 0.220 g/cm^3.
	13	35.5	90	13.5	34	Snow cover density = 0.204 g/cm^3.
	21	35.5	90	16.0	41	Snow cover density = 0.213 g/cm^3.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	27	36.0	91	16.0	41	Snow cover density = 0.260 g/cm^3.
Apr	3	36.0	91	15.0	38	Snow cover density = 0.260 g/cm^3. Surface moderately ridged since 7 Feb.
	10	36.0	91	13.5	34	Snow cover density = 0.236 g/cm^3.
	18	36.0	91	14.5	37	Snow cover density = 0.233 g/cm^3. Snow cover slightly drifted so depth varies by a few inches overall.
	24	36.0	91	11.0	28	Snow cover density = 0.315 g/cm^3. Snow cover now melting and getting very "wet" and top few inches of ice is less brittle. Few ice cracks since 6 Mar and surface heavily ridged since 10 Apr.
May	1	36.0	91	2.0	5	Maximum ice thickness observed from 27 Mar to 1 May. Snow cover density = 0.334 g/cm^3. Ice cover is "wet," not firm. Snow depth varied from 0.5 to 3.5 in. Water all around the edge of the lake from runoff.
	8	34.0	86			No snow on the ice. Surface lightly ridged and numerous ice cracks observed on 1 and 8 May. Last ice thickness measurement for the season. A boat was used to get on the ice, although the anchor ice is still intact under the water runoff. Ice is honeycombed for about 4 in., then fairly soft throughout the layer (easy drilling).
	12					Anchor ice is gone, small "bergs" in open water around the edges of the ice.
	15					Ice too unsafe to reach the observation site. Probably strong enough at drilling location but too bad getting to it.
	21					Ice moved with a brisk north breeze, first movement noted.
	26					Open leads appeared today, large pieces of ice breaking free and moving independently of main ice sheet with strong SW winds.
	31					Lake is still at least 2/3 ice covered, not changing much, but must be fairly rotten.
South Baymouth* (ONT):		**Measurement made on South Bay, 150 yd east of the Ministry of Natural Resources dock.**				
1975						
Dec	21					Freeze-up reported to occur on this date.
	29	7.0	18			First ice thickness measurement for the season. No snow on the ice.
1976						
Jan	5	8.0	20	3.0	8	
Feb	23	23.0	58	5.0	13	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Mar	1	24.0	61	5.0	13	
	8	29.5	75			Maximum ice thickness observed.
	15	29.0	74			
	22	26.0	66			
	29	24.0	61			
Apr	5	21.0	53			
	12	18.0	46			Last ice thickness measurement for the season. No snow on the ice since 8 Mar.
Spence Bay* (N.W.T.):Measurement made on Spence Bay, no exact location given.						
1975						
Dec	31					No information given during 1975.
1976						
Feb	6	64.0	163	12.0	30	First ice thickness measurement for the season.
Mar	26	82.0	208	14.0	36	
Apr	2	84.0	213	14.0	36	
	9	84.0	213	14.0	36	
	16	94.0	239	14.0	36	
	23	94.0	239	14.0	36	Maximum ice observed on 16 and 23 April.
	30	87.0	221	13.0	33	
May	7	87.0	221	13.0	33	
	14	88.0	224	10.0	25	
	21	88.0	224	7.0	18	
Jun	4	92.0	234			
	11	93.0	236			Last ice thickness measurement for the season. Note: The ice thickness value of 99 in. listed in the Canadian reference on this date is not correct. The 93 in. shown here was taken from the original observers report (Authors). No snow reported on the ice on 4 and 11 June. No ice deterioration or breakup information was provided.
Summerside* (P.E.I.): Measurement made in a harbor of Northumberland Strait, at same location as last year, inside the black buoy area off SW end of the railroad wharf.						
1975						
Dec	5					First permanent new ice reported on this date. Ships in port, open water in some areas due to propeller action.
	19	3.0	8			Freeze-over of the harbour reported on this date. First ice thickness measurement for the season was estimated. Surface smooth, no ice cracks observed.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	6.0	15			No snow on the ice on 19 and 26 Dec.
1976						
Jan	2	8.0	20			
	9	13.5	34			Surface rough, few ice cracks observed and very little snow on the ice on 2 and 9 Jan.
	16	18.0	46	3.0	8	
	23	19.0	48	3.5	9	No open water. Ice crust from southwest and extending to south. Surface conditions are obscured by snow.
	30	19.5	50			Mild weather with rain has melted the snow cover. A recent freeze made measurements easier.
Feb	13	18.5	47			No snow on the ice.
	20	20.0	51	1.0	3	Snow cover varied from zero to 2 in., surface conditions ranged from fairly smooth to some roughness and very few ice cracks observed since 6 Feb. Maximum ice thickness observed.
	27	19.5	50	1.0	3	Cover consists of slush and water. Ice conditions have not changed much this month. Skating is possible over most of the harbour. Ice is smooth after a weekend thaw.
Mar	5	17.0	43			
	12	16.5	42			No snow on the ice on 5 and 12 Mar.
	19	16.0	41	4.0	10	Few ice cracks observed since 5 Mar. Ice deterioration.
	26	12.0	30			Last ice thickness measurement for the season. This value was taken over a large ice cake in the area. A D.O.T. icebreaker broke the ice in the channel and along side the wharf. Some large open water areas observed.
Apr	17					Harbor reported to be clear of ice on this date.
Thunder Bay* (ONT): Measurements made on Thunder Bay, about 25 ft off the Natural Resources Air Svcs. Branch dock, about 3/10 mi. NE of Port Arthur shipyards.						
1975						
Nov	24					First permanent new ice reported on this date.
Dec	12	9.5	24			Entire bay not yet frozen over. Ice measured on this date was broken up by a combination of brisk winds, wave action and slightly above-freezing tempertures. Surface lightly rafted.
	13					Ice has shifted toward the breakwater.
	19	8.0	20			Ice measured on this date was new ice which formed since the 13th during a cold spell. No ice observed on 12 and 19 Dec.
	26	12.0	30			Trace of snow on the ice observed since 12 Dec.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Jan	2	16.5	42	1.0	3	Large area of open water extends from approx. 750 ft SW of the measuring site to beyond line from Welcomes-Pie Island. Heavy shipping traffic and ice breaking operations in the bay.
	9	18.5	47	1.5	4	Observer states that this reading may be incorrect since the hot-wire instead of the auger was used.
	16	17.0	43	3.0	8	A few to numerous ice cracks observed since 26 Dec 1975.
Mar	19	30.0	76	5.0	13	
	20					Ice starting to deteriorate.
	26	31.0	79	5.0	13	Surface smooth, no ice cracks observed since 23 Jan. Maximum ice thickness observed.
Apr	2	30.0	76	0.5	1	Surface smooth, no ice cracks observed since 23 Jan.
	9	25.0	64	1.0	3	Last ice thickness measurement for the season. Observer states that there appears to be a 3-in. airspace down 18 in. from the top of the ice sheet. Probably due to ice floes sliding over new ice when the original ice broke up twice in late Dec and early Jan. Auger penetrated the ice sheet rather easily. Snow cover looks more like frozen, rotten slush rather than snow. Several pools of water near the measuring site.
	16					No further measurements. Ice unsafe. The icebreaker Alexander Henry, now equipped with air cushion capability had done extensive ice breaking in and out of the harbour during Mar. This has resulted in several large leads within 1 mile of shore and in the vicinity of the measuring site.
	25					Bay reported to be clear of ice.
Trappers Creek (Alaska):		**Measurement made on the Susitna River of the Town of Talkeetna.**				
1975						
Oct	20					Ice floes in the river.
	25					Ice formed along the river edges to about 3 ft out.
Nov	1					Ice floes have jammed in the narrows.
	8					Ice has jammed in the main channel to the horizon. Water is backing up. Some open water visible but no smooth ice observed.
	15	20.0	51	1.0	3	No ice cracks at drill site, a few observed on other channels.
	22	15.0	38	2.0	5	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	29	18.0	46	2.0	5	Few ice cracks observed since 15 Nov. Rather cold winter so far with very little snow. No overflow on the river, as yet, which generally is a problem with these weather conditions.
Dec	6	23.0	58	4.0	10	
	13	26.0	66	3.0	8	Surface rough since 15 Nov. Numerous ice cracks observed on 6 and 13 Dec.
	20	28.0	71	12.0	30	
	27	29.0	74	14.0	36	Leads 1/2 to 3/4 in. wide and 4 to 20 ft in length.
1976						
Jan	3	32.0	81	14.0	36	Surface moderately ridged since 20 Dec 1975.
	10	32.0	81	11.0	28	
	17	34.0	86	10.0	25	Maximum ice thickness observed. However, since this is still quite early in the winter season, the value may have later been greater (Authors). Surface smooth on 10 and 17 Jan.
	24	31.0	79	8.0	20	
	31	33.0	84	11.0	28	Last ice thickness measurement for the season. No explanation given for the early termination of the observations. Surface moderately ridged on 24 and 31 Jan, and few ice cracks observed since 20 Dec 1975. Observer notes that the ice is dropping, and an opening has developed on the cut banks with a little overflow.
Tuktoyaktuk* (N.W.T.):		**Measurement made on Tuktoyaktuk Harbour, 400 yd SW of the N.T.C.L. main wharf.**				
1975						
Sep	28					Ice formed on the bay on this date.
Oct	10					Harbour completely froze over on this date. Note: These dates were taken from the original data sheets, but they do not agree with the dates of first ice and freeze-over given in the Canadian reference (Authors).
	17	8.0	20			First ice thickness measurement for the season.
	31	10.0	25			No ice cracks observed during Oct.
Nov	7	26.0	66			No snow on the ice observed since 17 Oct.
	21	37.0	94	8.0	20	Snow cover "loose" on 14 and 21 Nov. Few to numerous ice cracks observed since 7 Nov.
Dec	2					Tidal cracks froze over on this date.
1976						
Feb	20	71.0	180			No snow on the ice since 28 Nov 1975.
Mar	5	74.0	188	3.0	8	Snow cover "loose."
	19	78.0	198			No snow on the ice on 12 and 19 Mar.

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	79.0	201	2.0	5	
Apr	3	81.0	206	3.0	8	
	9	83.0	211	3.0	8	
	16	85.0	216			
	23	87.0	221			
	30	88.0	224			Maximum ice thickness observed. Last ice thickness measurement for the season. No snow on the ice since 16 Apr.
Jun	1					First ice breaks or ice deterioration reported on this date.
	18					Harbor reported to be clear of ice on this date.
Welland Canal* (A) (ONT):		**Measurement made on Port Weller Harbour (Entrance to Lock 1).**				
1976						
Jan	22	9.5	24			First ice thickness measurements for the season. Surface pancaked and rafted.
	26	9.5	24			Maximum ice on 22 and 26 Jan. Ice surface cracking and water covered.
Feb	2					Small pancakes and open water.
	5	6.0	15			Pancake ice and 1" of new ice.
	9	5.0	13			Pancake ice and open water observed.
	26					Open water observed since 12 Feb. Last measurements for the season.
Welland Canal* (B) (ONT):		**Measurements made above guard gate.**				
1976						
Jan	22	10.5	27	1.0	3	First ice thickness measurement for the season.
	26	10.5	27			Surface water covered.
Feb	2	12.5	32			Light cover of snow on the ice.
	5	13.0	33			
	9	13.5	34			Maximum ice thickness observed.
	12	13.0	33			
	16	10.5	27			Surface water covered.
	19	9.0	23			
	26					Open water observed since 12 Feb. Last measurement for the season.
	26	6.0	15			Last ice thickness measurement for the season.
Welland Canal* (C) (ONT):		**Measurement made near Bridge 19.**				

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Jan	22	9.0	23	4.0	10	First ice thickness measurement for the season.
	26	8.0	20			1 in. water on the ice.
	29	10.0	25	1.0	3	
Feb	12	12.0	30	0.5	1	Maximum ice thickness (12 in.) observed from 2 to 12 Feb.
	16	10.5	27			1/4 in. snow on the ice.
	19	8.5	22	1.0	3	No snow on the ice.
	23	9.0	23	1.0	3	
	26	8.5	22			No snow on the ice. Last ice thickness measurement for the season.
Welland Canal* (D) (ONT):		**Measurements made at Port Colborne Harbour (above Lock 8).**				
1976						
Jan	22	8.0	20	2.0	5	First ice thickness measurement for the season.
	26	7.0	18			1 in. of water on the ice.
	29	10.0	25	1.0	3	
Feb	12	12.0	30	0.5	1	Maximum ice thickness (12 in.) observed from 2 to 12 Feb.
	16	11.0	28			1/4 in. snow on the ice.
	19	8.5	22			No snow on the ice.
	23	9.0	23	1.0	3	
	26	8.5	22			No snow on the ice. Last ice thickness measurement for the season.
Yellowknife* (N.W.T.):		**Measurements made on Back Bay, 300 yd from Wardair dock.**				
1975						
Oct	9					First permanent new ice reported on this date.
	25					Freeze-over of the bay reported on this date.
Nov	21	10.5	27	3.0	8	First ice thickness measurement for the season. Two places were measured on this date. The first spot had about 10 in. snow and 5.5 in. of ice. The value given in the table was taken at a relatively clear patch of ice some 20 yds away.
	28	12.5	32	3.0	8	This ice measurement was taken in the same area where the previous value of 10.5 in. was made.
1976						
Mar	2	42.0	107	6.0	15	
	7	46.0	117	8.0	20	
	15	45.0	114	9.0	23	

TABLE II. ICE THICKNESS 1975-76

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	23	44.0	112	11.0	28	
Apr	2	44.5	113	6.0	15	
	7	44.0	112	5.0	13	
	15	51.0	130	4.0	10	Maximum ice thickness observed. Value appears slightly high according to previous and later values; it is perhaps rafted ice (Authors).
	23	43.5	110	1.0	3	Last ice thickness measurements for the season. No further information on ice deterioration is given. Surface smooth, no ice cracks observed since 21 Nov. 1975.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Alert(A) (N.W.T.)		**Measurements made on Upper Dumbell Lake, 100 yd SW of DND pumphouse.**				
1976						
Oct	15	50.0	127	5.0	13	
	22	51.0	130	2.0	5	Vehicle not available for the first two ice observations.
	29	53.0	135	2.0	5	
Nov	6	56.0	142			
	12	58.0	147	3.0	8	
	20	59.0	150	4.0	10	
	26	70.0	178	4.0	10	
Dec	3	70.0	178	4.0	10	
	10	66.0	168	4.0	10	
	17	69.0	175	4.0	10	
	24	70.0	178	4.0	10	
1977						
Jan	1	70.0	178	11.0	28	
	8	71.0	180	11.0	28	
	15	73.0	185	15.0	38	
	21	76.0	193	12.5	32	
	28	72.0	183	13.5	34	
Feb	4	75.0	191	13.5	34	
	11	75.0	191	12.5	32	
	18	77.0	196	14.0	36	
	25	77.0	196	14.0	36	
Mar	4	81.0	206	14.0	36	
	11	80.0	203	14.0	36	
	18	82.0	208	14.5	37	
	25	83.5	212	15.0	38	
Apr	1	84.0	213	16.5	42	
	8	86.5	220	15.5	39	
	15					No ice measurement on this date, ice auger was lost.
	22	89.0	226	16.0	41	
	29	90.5	230	16.0	41	
May	6	91.0	231	21.0	53	
	15	93.0	236	21.0	53	Ice measurement delayed two days, no vehicle available on the 13th.
	21	93.0	236	20.0	51	
	28	93.0	236	18.5	47	
Jun	3	90.5	230	25.0	64	
	10	93.0	236	23.5	60	Maximum ice thickness observed from15 to 28 May and 10 June. Last ice thickness measurement

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						for the season. Surface smooth, no ice cracks observed since 15 Oct 1976.
	17					Ice observations discontinued due to excessive puddling making the ice unsafe.
Alert(B) (N.W.T.)		**Measurements made on Alert Inlet, about 125 yd SE of hydrographic benchmark on the shoreline.**				
1976						
Oct	15	30.0	76	3.0	8	
	22	33.0	84	2.0	5	Vehicle not available for the first two ice observations.
	29	37.0	94	2.0	5	
Nov	6	40.0	102	3.0	8	
	12	42.0	107	3.0	8	
	20	44.0	112	4.0	10	
	26	47.0	119	4.0	10	
Dec	3	50.0	127	3.0	8	
	10	55.0	140	3.0	8	
	17	56.0	142	3.0	8	
	24	57.0	145	3.0	8	
1977						
Jan	1	61.0	155	10.0	25	
	8	63.0	160	10.0	25	Surface smooth since 15 Oct 1976.
	15	61.0	155	12.0	30	Surface lightly rafted.
	21	62.0	157	15.0	38	
	28	64.0	163	15.0	38	
Feb	4	67.0	170	15.0	38	
	11	68.0	173	15.0	38	
	18	66.0	168	13.0	33	
	25	66.0	168	13.0	33	
Mar	4	74.0	188	13.0	33	
	11	74.0	188	13.0	33	
	18	76.0	193	13.5	34	
	25	77.0	196	14.5	37	
Apr	1	76.0	193	17.0	43	
	8	77.0	196	16.0	41	
	15					No ice measurement on this date, ice auger was lost.
	22	78.0	198	17.0	43	
	29	78.0	198	17.0	43	
May	6	81.0	206	17.5	44	
	15	81.0	206	17.0	43	Ice measurement delayed two days, no vehicle available on the 13th.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	21	81.0	206	17.0	43	
	28	81.0	206	17.0	43	Surface smooth since 21 Jan.
Jun	3	81.0	206	20.5	52	
	10	82.0	208	19.0	48	Maximum ice thickness observed. Last ice thickness measurement for the season. Surface lightly ridged on 3 and 10 June, and no ice cracks observed since 15 Oct 1976.
	17					Ice observation discontinued due to excessive puddling (spring runoff) making the ice unsafe.
Allakaket (Alaska):		**Measurements made on the Kayukuk River in front of the St. Johns-in-the-Wilderness Church.**				
1976						
Oct	9					Some ice on the river.
	10					River clear of ice.
	11					Lots of ice in the river.
	13					Ice increasing and now extending 4 ft out from shore.
	14					Ice is 3 in. thick, 6 ft out from shore.
	25					Ice extends only 3 ft from shore, since 16 Oct.
	27					River now frozen over.
Nov	6	3.0	8	1.0	3	
	13	7.0	18	6.0	15	
	20	8.0	20	9.0	23	
	27	11.0	28	14.0	36	
Dec	4	15.0	38	6.0	15	
	11	22.0	56	6.0	15	
	18	23.0	58	8.0	20	
	26	24.0	61	8.0	20	
1977						
Jan	2	25.0	64	9.0	23	
	8	26.0	66	10.0	25	
	15	26.5	67	10.0	25	
	22	27.0	69	11.0	28	
	29	27.0	69	11.0	28	
Feb	5	27.0	69	11.0	28	
	12	27.5	70	11.0	28	
	19	28.0	71	12.0	30	
	26	29.0	74	12.0	30	
Mar	5	29.5	75	16.0	41	
	12	30.0	76	19.0	48	
	19	30.5	77	26.5	67	
	26	31.0	79	26.5	67	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	2	31.0	79	23.0	58	Maximum ice observed on 26 Mar and 2 Apr.
	9	30.0	76	19.0	48	
	16	30.0	76	14.0	36	
	23	29.0	74	9.0	23	
	30	29.0	74	3.0	8	Last ice thickness measurement for the season. 4 in. of water overflow on this date.
May	9					Kuskokwim and Alatna River ice now unsafe for snowmobiles.
	11					Kuskokwim and Alatna River ice started moving.
	19					Kuskokwim and Alatna Rivers now free of ice.
Anchorage (Alaska):		**Measurements made at the seaplane tie-down area between Lake Hood and Lake Spenard. Water depth is about 10 ft.**				
1976						
Oct	23					Lake still free of ice.
	26					Thin ice over 80% of the lake.
	29					Both lakes are 100% ice covered with ice cracks over the main sections.
Nov	3					Some aircraft are operating from the lake.
	6	7.0	18	1.0	3	1 in. snow depth covers 50% of the lake, the other 50% has no snow cover. Warm weather during past few days has kept ice cracks in part of the lake from freezing over. Cracks are 0.5 in. wide and several hundred ft long. A few cracks have caused water overflow.
	8	7.0	18			No snow on the ice. Warm, windy weather last night melted the snow and some puddles of meltwater now on the surface.
	13	7.0	18			Warm weather during the past week (maximum air temperatures 30 to 45 deg F). Ice much softer than observed on 6 Nov. The aircraft have moved off the ice because of it being too soft. 1 in. slush on the ice.
	20	9.5	24			Several ice measurements were made around Lake Spenard and in the aircraft tie-down area. The values ranged from 9 to 10 in. One inch of the 2.5 added increment since last week was a result of the refreezing of meltwater.
	27	10.0	25			Ice cover is soft. 1 in. of slush on the surface.
Dec	4	10.0	25	1.0	3	Water from rainfall last week remaining along the shoreline, began to refreeze on 2 Dec.
	11	11.0	28	4.0	10	Several areas of water overflow on both lakes, but not at the ice measuring site.
	18	11.5	29	5.0	13	Five ice holes were drilled, thickness ranged from 11 to 12 in. No ice cracks observed since 27 Nov.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	12.0	30	4.0	10	Water overflow noted in the vicinity of a few ice cracks. Two ice measurements read 11.5 and 12.5 in.
1977						
Jan	1	12.5	32	4.0	10	Ice sheet "feels soft." Auger bit jammed in ice several times, making it difficult to use the drill. A few long ice cracks noted with water overflow in these areas. Surface smooth since 6 Nov.
	9	14.0	36	0.5	1	Warm weather during the past week has melted the snow on the ice. The added ice increment since 1 Jan ice is due to refrozen meltwater.
	15	14.5	37	0.5	1	Little change in ice conditions since last week. Record warm air temperatures observed. Surface lightly ridged on 9 and 15 Jan.
	22	16.0	41			Warm weather melted all the snow on the ice surface which has refrozen and now is being added to the total thickness.
	29	17.0	43			Rain and snow melt during the past week refroze on the ice, and ice cracks have "filled in." Surface now very smooth. Observer notes that this is the warmest Jan. on record (11 deg C above normal).
Feb	6	17.5	44			A few small patches of water on the ice. Rough cover of slush has melted.
	12	18.0	46	2.0	5	Cooler weather obsrved last week with one 2-in. snowstorm. Ice surface is ideal for aircraft operations.
	19	18.0	46	1.0	3	More warm weather; the snow on the ice is beginning to melt. Surface smooth since 22 Jan, and no ice cracks since 29 Jan.
	26	18.5	47			Aircraft tracks in frozen slush have resulted in a rough surface. Cooler weather during past few days has produced some ice tension cracks.
Mar	5	19.5	50	1.0	3	Three ice measurements read 19, 20 and 20 in. Very difficult drilling in some areas.
	12	21.0	53	1.0	3	Colder weather observed with some snow and strong north winds. Ice now easier to drill.
	19					No ice measurement made on this date.
	26	22.5	57	1.5	4	Ice now fairly hard, and easy to drill through. Surface slightly rough since 26 Feb.
Apr	3	23.0	58			Maximum ice thickness observed. 8-in. snowfall on 1 April began to melt on 2 April, and the entire lake is covered with 3 to 6 in. of slush and water. Surface smooth and raining today.
	9	22.0	56			3 in. of slush on the surface forze and then thawed again. Ice sheet is softer than last week.
	17	21.0	53			1 in. of frozen slush on the surface. Ice hardness

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						about the same as last week. Surface slightly rough on 9 and 17 April.
	23					Shore leads developing and ice is getting very soft. Most aircraft have moved off the ice this past week. A few still operating on the ice today.
	25	17.0	43			1 to 3 in. slush on the ice. Few to no ice cracks observed on the ice since 29 Jan. Last ice thickness measurements for the season.
	30					Shore leads are too wide to safely get on the ice. Ice beginning to candle. All aircraft off the ice now.
Bagotville (QUE):		**Measurements made on Ha Ha Bay off Bagotville dock, at 400 ft from shore's bank. Site is 90° to dock and about 1200 ft from dock.**				
1976						
Dec	4	3.0	8			Ice thickness was estimated and taken at a site different than the selected one. Bay is 75% ice covered, but still unsafe to walk on. No snow on the ice, and no ice cracks observed.
	11	12.0	30	4.5	11	First ice thickness measurement for the season. Bay is 95% ice covered. Surface smooth on 4 and 11 Dec.
	17	21.0	53	6.0	15	Bay is 98% ice covered. Slush over the ice cover.
	24	30.0	76	4.0	10	Bay is 100% ice covered. Three boats on the bay entered the dock with icebreaker help. A channel from the dock to the Sagueny terminal observed. Ice cracks observed on 17 and 24 Dec.
	27					Icebreaker kept the channel open to permit boats to return to the dock from Sagueny.
	31	25.0	64	14.0	36	Bay is 100% ice covered. Few to no ice cracks since 11 Dec.
1977						
Jan	7	31.0	79	6.0	15	
	14	29.0	74	5.5	14	Surface smooth to lightly rafted since 4 Dec 1976.
	21	27.0	69	9.0	23	A boat is using the bay, slush observed on the ice, and ice sheet has been less difficult to penetrate.
	28	26.0	66	6.0	15	Snow cover has hardened. Ice has "heaped" along the bank due to the ocean tides. No icebreaker action during Jan, and boat traffic has been rare.
Feb	4	31.0	79	8.0	20	No boats on the bay.
	11	33.0	84	7.5	19	Snowstorm in progress.
	17					Channel between Sagueny and the terminal of unknown length formed by the icebreaker.
	18	33.0	84	12.0	30	Few ice cracks observed since 7 Jan.
	22					Icebreaker on the bay.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	25	33.0	84	8.0	20	Maximum ice observed on 11, 18 and 25 Feb. Last ice thickness measurement for the season. Snowstorm in progress, slush on the ice near the ice measurement site. Eight boats have waited in port until the end of Feb.
Mar	3					Icebreaker activity on the bay.
	4					Ice measuring site is impossible to get to. Observations can only be made from the bank's edge. 99% of bay ice covered, open water along the edge of the bank. Ice severely rafted on 25 Feb and 4 Mar. Ice observations over for the season.
Baker Lake (N.W.T.)		**Measurements made on Baker Lake, 110 m south of the pumphouse.**				
1976						
Oct	14					Lake froze over on this date.
	22	5.5	14			First ice thickness measurement for the season.
	29	10.5	27			
Nov	7	15.0	38			Trace of snow on the ice since 14 Oct.
	12	22.0	56	0.5	1	
	19	26.0	66	0.5	1	
	27	31.5	80	0.5	1	
Dec	3	36.0	91	1.0	3	
	10	38.0	97	1.0	3	
	18	40.0	102	1.0	3	
	25	50.0	127			Trace of snow on the ice.
	31	54.0	137			
1977						
Jan	7	56.0	142			
	14	60.0	152			
	21	61.5	156			
	30	67.0	170			Ice observation delayed two days due to inclement weather. No snow on the ice since 31 Dec 1976.
Feb	6	69.5	177			Ice observation delayed two days due to inclement weather. Trace of snow on the ice.
	11	69.5	177			
	18	72.5	184			
	25	74.0	188			No snow on the ice since 11 Feb.
Mar	4	74.5	189			
	11	76.5	194			
	18	80.5	204			
	26	84.0	213			
Apr	2	87.5	222			Trace of snow on the ice since 4 March.
	10	84.0	213			

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	15	85.5	217			No snow on the ice on 10 and 15 Apr.
	22	85.5	217			Trace of snow on the ice.
May	1	87.5	222			
	6	90.0	229			Maximum ice thickness observed.
	13	89.0	226			
	20	87.5	222			
	28	83.0	211			Ice observation delayed one day due to adverse weather. Candled ice observed on 20 and 18 May. Shore lead developed after 26 May. Surface smooth, few ice cracks observed since 22 Oct 1976.
Jun	3	79.0	201			
	10	72.5	184			Last ice thickness measurement for the season. This value was estimated because the observer was unable to cross the shore lead. No further observations taken, conditions are too hazardous.
Barrow (Alaska):		**Measurements made on Imikpuk Lake (fresh water), about 375 ft ESE from water intake to lake center, adjacent to Naval Arctic Research Laboratory.**				
1976						
Sep	7					First ice seen on Imikpuk Lake.
	16					Warm weather condition, lake now free of ice.
	20					Lake frozen, shore to shore.
Oct	8					Ice approximately 11 in. thick on the lake.
Nov	5	24.0	61			First ice thickness measurement for the season.
	12	27.0	69			Surface smooth, no ice cracks seen.
	19	29.0	74			No snow on the ice since 5 Nov.
	26	32.0	81	2.0	5	Surface smooth.
Dec	3					No ice thickness measurement given, surface lightly ridged.
	10	40.0	102			Surface smooth to lightly ridged.
1977						
Jan	14	56.5	144			No snow on the ice since 3 Dec 1976. Surface lightly ridged, few ice cracks about 10 m from the ice measuring site. The largest is 1/2 in. wide and over 15 m long, but exact length is hidden by some snow.
	21	56.0	142	0.5	1	
	28					No ice measurement made, awaiting auger replacement.
Feb	11	65.0	165	3.0	8	
	18	65.0	165	4.0	10	
Mar	11	71.0	180	2.5	6	Surface smooth, no ice cracks seen since 21 Jan.
Apr	8	82.0	208			Three 1/2 in. ice cracks intersect just SE of the

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						drilling site, length is undetermined due to snow cover. Some unopened shatter cracks in the vicinity.
	15	63.5	161	4.5	11	Note: this measurement may have been taken over a different area of ice growth (Authors).
	20					Movement of the sea ice in the Arctic Ocean was observed on this date.
	22	81.5	207	5.0	13	
	29	86.0	218			Surface swept clean of snow by winds. Air temperatures (at the times of ice observation) ranged from -4 to -14 deg F during Apr.
May	6	87.0	221	3.0	8	Maximum ice thickness observed. Last measurement for the season. Surface smooth to gently undulating since 8 Apr. Snow cover is covering the ice cracks. Air temperature at ice observation time 24 deg F.
Barter Island (Alaska):		**Measurements made 100 ft from shore on a nearby freshwater lake.**				
1976						
Oct	2	2.0	5			First ice thickness measurement. Strong winds swept 2 in. of new snow from the ice surface.
	9	7.5	19	1.0	3	Few new ice cracks observed.
	16	10.0	25	1.0	3	
	23	13.5	34	1.0	3	
	30	16.0	41	4.0	10	
Nov	6	22.0	56	5.0	13	Few ice cracks since 9 Oct.
	13	24.5	62	5.0	13	
	20	26.5	67	5.0	13	
	27	26.5	67	5.0	13	Ice cracks observed on 20 and 27 Nov.
Dec	4	30.5	77	6.0	15	
	11	35.5	90	6.0	15	
	18	41.0	104	6.0	15	
	25	45.0	114	6.0	15	
1977						
Jan	2	47.0	119	5.0	13	
	8	51.0	130	5.0	13	
	15	52.0	132	5.0	13	
	22	55.0	140	5.0	13	
	29	57.0	145	5.0	13	Numerous old ice cracks since 4 Dec 1976.
Feb	5	60.0	152	7.0	18	
	12	62.0	157	7.0	18	
	19	64.5	164	7.0	18	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	66.5	169	7.0	18	
Mar	5					No ice measurement. Attending a conference.
	12	72.0	183	7.0	18	
	19	74.0	188	7.0	18	
	26	75.0	191	7.0	18	Numerous old and new ice cracks observed.
Apr	2	76.0	193	7.0	18	Very few new cracks have developed.
	9	76.5	194	7.0	18	
	16	80.0	203	7.0	18	
	23	81.5	207	7.0	18	
	30	81.5	207	7.0	18	Maximum ice thickness observed on 23 and 30 April.
May	7	80.5	204	7.0	18	
	14	79.5	202	6.0	15	
	21	81.0	206	6.0	15	
	28	79.0	201	5.0	13	Melt ponds forming on the ice with up to 4 in. water in some ponds. Snow is soft with water forming under the melting layer of snow. Surface smooth since 2 Oct 1976.
Jun	4	78.0	198			Melt ponds forming on the ice with up to 4 in. water in some ponds. Snow is soft with water forming under the melting layer of snow. Surface smooth since 2 Oct 1976.
	11	74.0	188			All snow melted on the lake and meltwater surrounds the lake near the shore from runoff.
	18	66.0	168			
	25	64.0	163			10 to 20 ft of water surrounds the ice on the lake. The ice is rotten from the candling on top to the bottom.
Jul	1					Sea ice in the Beaufort Sea, ice now unsafe for tractors (D-6).
	2	55.0	140			Last ice thickness for the season. No snow on the ice since 4 June. Surface candled, numerous old ice cracks since 11 June. Extensive open water around the edge of the ice. Ice rotten with pools of water through the ice where melt ponds were a week ago.
	9					No ice measurement taken as the observer "didn't care to swim to the measuring site." Movement of the sea ice on the Beaufort Sea was observed.
	25					Beaufort Sea ice unsafe to walk on.
	30					Boats now in use on the Beaufort Sea.

Bethel (Alaska): **Measurements made on the Kuskokwim River, 200 yd across the river from the Fishermen Cooperative.**

1976

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Oct	25					River is free of ice, but some sloughs are frozen over.
	26					Kuskokwim frozen over and pressure ridges (not high or large) cover parts of the river.
	28					People are now walking across the river ice.
	29					Snow machines now on the river ice.
	31	6.5	17	0.5	1	First ice thickness measurement for the season. A plane landed on the river ice on this date.
Nov	7	9.0	23	2.0	5	
	14	10.5	27			The snow on the ice melted and left the river bare of snow or a hard-packed snow ice.
	15					Vehicles are now operating on the river ice.
	21	13.0	33	0.5	1	
	28	15.5	39	0.5	1	
Dec	5	19.0	48			Remaining snow cover has been blown off the ice.
	12	23.5	60	1.5	4	About 1/5 of the river ice is still bare of snow and drifts are increasing in size with some about 8 in. deep.
	19	24.0	61	1.5	4	
	26	24.5	62	1.5	4	
1977						
Jan	2	26.0	66	2.0	5	
	9	28.0	71			No ice cracks observed since 31 Oct 1975/
	16	28.0	71			No snow on the ice observed on 9 and 16 Jan. Few ice cracks observed.
	23	28.5	72	1.5	4	
	30	32.0	81			No snow on the ice.
Feb	6	32.0	81	1.5	4	
	13	35.0	89	1.0	3	
	20	36.0	91	1.5	4	
	27	35.0	89	2.0	5	
Mar	6	37.0	94	2.5	6	Snow cover has been "packed solid" since 6 Feb.
	12					The snow on the river ranges from 3 to 12 in. in depth.
	13	39.0	99	4.0	10	
	20	40.0	102	5.0	13	
	27	40.0	102	6.0	15	
Apr	3	41.5	105	9.0	23	
	10	42.0	107	8.0	20	
	17	42.5	108	10.0	25	
	24	42.5	108	10.0	25	A thin film of water formed between the ice and the snow cover. The ice has shown very little sign of getting soft. Snow cover reported as packed during April.
May	1	43.5	110	5.0	13	Snow cover consists of slush, snow and water.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Cars have stopped operating on the river. Little sign of ice softening. Maximum ice thickness observed. A second ice measurement gave a value of 42.5 in.
	8	40.5	103	3.0	8	Snow cover consists of slush and snow. The top 2 in. of the ice is crystallized. Slush varies from 2 to 6 in. deep with very little water on the ice. Ice cover is softening.
	11					River level has risen a little.
	14					River becoming unsafe to travel on.
	15	35.0	89			Last ice thickness measurement for the season. The last of the planes were taken off the river. No snow on the ice. Two other measurements gave values of 35 and 36 in., and ice is soft and crystallized. Surface smooth, no ice cracks since 23 Jan.
	17					River level rising.
	20					Some holes are appearing in the ice and the anchored ice is breaking up.
	21					Ice is shifting.
	22					River ice has moved out, and boating has started.
	23					River reached flood stage in early morning. More ice moved out last evening and river rose and fell all day.
	24					River level crested and started to fall in the evening.
	25					River is free of ice and shipping started. River level is 10.5 ft.
Bettles (Alaska)		**Measurements made on Koyukuk River at Evansville.**				
1976						
Dec	4	24.0	61	12.5	32	First ice thickness measurement for the season. Wind has blown some, so it is difficult to tell how deep the snow is. No water overflow observed as yet.
	11	24.0	61	12.5	32	
	18	26.0	66	13.0	33	
	25	29.0	74	13.5	34	
1977						
Jan	1	31.0	79	14.0	36	
	8	33.0	84	14.0	36	
	15	34.0	86	13.5	34	
	22	35.0	89	13.0	33	
	29	36.0	91	18.0	46	New snowfall last week, but no water overflow

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						observed as yet. Weather getting cold, observer believes there might be some overflow on the river. Surface smooth since 4 Dec 1976.
Feb	5	38.0	97	16.5	42	
	12	40.0	102	18.0	46	
	19	40.0	102	14.0	36	
	26	41.0	104	19.0	48	No water on the ice observed. It has been a warm winter so far.
Mar	5	44.5	113	21.0	53	
	12	46.0	117	21.0	53	
	19	46.0	117	23.0	58	
	26	46.0	117	21.5	55	No water observed beneath the snow cover. Surface has been wind-blown on 19 and 26 Mar.
Apr	2	46.0	117	22.0	56	
	9	46.0	117	22.5	57	
	16	46.0	117	22.5	57	
	23	46.0	117	15.0	38	
	30	48.0	122	13.0	33	Maximum ice thickness observed. Some water seen on the ice. River is now not safe for vehicles. Some open water about 250 yd up-river on the south bank.
May	7	39.0	99	2.5	6	Last ice thickness measurement for the season. No ice cracks since 4 Dec 1976. Ice has started to move.
	10					Water on both sides of the river shores.
	11					Water becoming wider on both shores. Ice has piled up about 200 yd across the river on the left side of a sand bar.
	14					River is now clear of ice.
Big Trout Lake (ONT):		**Measurements made on Big Trout Lake, about 100 yd south of Dept. of Environment dock.**				
1976						
Nov	5	4.0	10			First ice thickness for the season. No snow on the ice. Open water to the east. Then main section of the lake is still not frozen.
	8					The main portion of the lake is now completely frozen over.
	12	10.0	25	0.5	1	Occasional leads during the week located most persistently about 300 yd SE of the D.O.E. dock.
	19	12.0	30	0.5	1	
	26	15.0	38	1.0	3	
Dec	3	19.0	48	2.0	5	
	10	22.0	56	2.0	5	
	17	21.0	53	8.0	20	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	24	27.5	70	6.5	17	
	31	28.0	71	6.0	15	
1977						
Jan	7	29.5	75	7.0	18	
	14	32.5	83	7.0	18	
	21	32.0	81	10.0	25	
	28	39.0	99	7.0	18	
Feb	4	36.0	91	10.0	25	
	11	37.5	95	8.0	20	
	18	38.0	97	10.0	25	
	25	41.5	105	8.5	22	
Mar	4	36.0	91	7.5	19	
	11	39.0	99	11.0	28	
	18	40.0	102	4.5	11	
	25	46.5	118	7.5	19	Maximum ice thickness observed.
Apr	1	41.0	104	9.5	24	
	8	41.0	104	11.0	28	
	15	42.5	108			No snow on the ice at the drilling site, but main ice sheet had about 5 cm of slushy snow on the surface.
	22	39.0	99			Surface smooth, no ice cracks observed since 5 Nov 1976.
	29	26.5	67			A few patches of snow (no more than a trace) on the ice. Last ice thickness measurement for the season.
May	6					Ice considered too dangerous to measure. Ice is badly candled with a widening shore lead. No snowmobiles or pedestrian traffic in the measuring site area.
	13					Bay ice has shifted.
	15					Bay is now clear of ice.
	24					Main lake is now free of ice.
Blanc Sablon (QUE): Measurements made on west side of Lac aux Bouleaux.						
1977						
Jan	7	8.0	20	1.0	3	
	14	11.0	28			
	21	10.0	25			No snow on the ice on 14 and 21 Jan.
	28	12.0	30	2.0	5	
Feb	4	18.0	46	2.0	5	
	11	22.0	56	6.0	15	
	18	29.0	74	15.0	38	
	25	31.0	79	17.0	43	No leads observed during Feb.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Mar	4	32.0	81	21.0	53	
	11	33.0	84	29.0	74	Maximum ice thickness observed.
	19	31.0	79	23.0	58	Observation delayed one day due to blowing snow.
	26	28.0	71	10.0	25	Observation delayed one day due to blowing snow. The 10 in. cover consists of snow, slush and water.
Apr	4					No ice measurement due to excess water on the lake. No cracks on the ice observed since 7 Jan.
	8	25.0	64			
	15	23.0	58			
	22	18.0	46			
	29	11.0	28			Last ice measurement for the season. Surface smooth since 7 Jan. Few ice cracks, and no snow on the ice observed since 8 Apr. About 10 in. of water on the lake ice.
Botwood (NFLD):		**Measurements made in inlet harbor extending from Notre Dame Bay about midway between Killick Point and Mill Point.**				
1976						
Dec	15					Freeze-up occurred during the second week of Dec. Pack ice from snow (and slush) caused greater ice thickness.
	17	9.0	23			First ice thickness measurement for the season. Ice closely packed.
	24	9.0	23			No snow on the ice on 17 and 24 Dec.
	25					Tidal cracks became refrozen on this date.
	31	9.0	23	2.0	5	Snow cover is soft. Mild air temperatures have kept the ice thickness unchanged.
1977						
Jan	8	12.0	30	1.0	3	Few to no ice cracks observed since 17 Dec 1976.
	14	13.0	33			No snow on the ice. Numerous ice cracks. A channel about 15 m wide has been cut north and south through the harbour.
	22	15.0	38	0.5	1	
	28	18.0	46	0.5	1	
Feb	5	19.0	48	2.0	5	Surface smooth since 24 Dec 1976.
	11	20.0	51	6.0	15	
	19	21.0	53	9.0	23	Snow cover drifted on 11 and 19 Feb.
	25	24.0	61	0.5	1	Few to no ice cracks observed since 22 Jan.
Mar	4	24.0	61	1.0	3	Numerous ice cracks.
	11	25.0	64			Maximum ice thickness observed. Ice cracks refrozen.
	18	24.0	61			No snow on the ice on 11 and 18 Mar. Few ice

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						cracks observed.
	20					Ice cracks refroze.
	25	23.0	58	2.0	5	No ice cracks.
Apr	2	20.0	51			No snow on the ice.
	8	18.0	46			Trace of snow on the ice.
	15	12.0	30	1.0	3	Surface smooth since 25 Feb. Last ice thickness measurement for the season.
	18					Ice breakup on this date.

Brochet (MAN): **Measurements made on Brochet Bay, 2000 ft from R.C. Mission dock.**

1976						
Oct	30					Freeze-up observed on this date.
Nov	11	8.0	20	1.5	4	
	18	10.5	27	4.0	10	Surface smooth on 11 and 18 Nov.
	25	11.0	28	5.0	13	No ice cracks observed.
Dec	2	13.0	33	6.0	15	
	9	13.5	34	7.0	18	
	16	14.0	36	10.0	25	
	23	19.0	48	10.5	27	
	30	17.0	43	10.5	27	
1977						
Jan	6	22.0	56	8.0	20	
	13	26.5	67	8.0	20	
	20	27.0	69	8.0	20	
	27	30.5	77	10.0	25	
Feb	3	32.0	81	10.0	25	
	10	31.0	79	12.0	30	
	17	32.0	81	12.5	32	
	24	32.5	83	12.5	32	
Mar	3	35.0	89	14.0	36	
	10	35.0	89	14.5	37	
	17	36.0	91	14.5	37	Maximum ice thickness observed.
	24	32.5	83	14.5	37	
	31	33.0	84	15.5	39	Last ice thickness measurement for the season. Surface moderately ridged since 25 Nov 1976. No ice cracks observed since 6 Jan.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Cambridge Bay (N.W.T.):		**Measurements made on Cambridge Bay, 100 m SSE of town site dock.**				
1976						
Oct	23	13.5	34	1.0	3	First ice measurement for the season.
	29	15.0	38	1.0	3	
Nov	6	22.5	57	1.5	4	
	13	25.5	65	1.5	4	
	19	27.5	70	1.5	4	
	26	27.5	70	1.5	4	
Dec	3	28.5	72	1.5	4	
	10	32.5	83	1.5	4	
	17	34.5	88	1.0	3	
	24	37.0	94	2.0	5	
	31	42.5	108	1.5	4	No ice cracks observed during 17, 24 and 31 Dec.
1977						
Jan	7	49.0	124	1.5	4	
	14	52.0	132	2.5	6	
	21	53.5	136	3.0	8	
	28	55.0	140	3.0	8	
Feb	4	62.0	157	3.5	9	
	11	63.0	160	3.5	9	
	18	55.5	141	5.5	14	
	25	62.5	159	2.0	5	No ice cracks observed during Feb and Mar.
Mar	4	61.5	156	2.0	5	
	11	71.0	180	2.5	6	
	18	72.0	183	2.5	6	
	25	71.0	180	2.0	5	No ice cracks observed during Feb and Mar.
Apr	8	71.0	180	5.0	13	
	15					No ice measurement taken on this date.
	22	71.0	180	5.0	13	
	29	71.5	182	4.5	11	
May	20	72.5	184	5.0	13	Maximum ice thickness observed.
	28	71.5	182	4.5	11	
Jun	3	72.0	183			No snow on the ice.
	10	71.0	180	1.0	3	Last ice measurement for the season. Surface smooth since 23 Oct 1976, few ice cracks observed since 8 Apr.
	17					Ice measurements discontinued because width of shore lead makes the site inaccessible.

Cape Dorset (N.W.T.): Measurements made on Cape Dorset Harbour, 1500 ft due north of the station.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Nov	12					No measurements during the first two weeks of Nov because the ice was too dangerous to walk on.
	19	10.0	25	1.0	3	Surface smooth.
	26	13.0	33	1.0	3	Surface smooth in some areas, rough in others.
	30	18.0	46	3.0	8	Surface is rough.
Dec	31					Data for this month are missing (Authors).
1977						
Jan	14	37.0	94	7.0	18	This is the only ice measurement received in Jan 1977 (Authors).
Feb	11	39.5	100	8.0	20	This is the only ice measurement received in Feb 1977 (Authors). The ice measurements taken in Jan and Feb were made 450 m north of the station.
May	7	55.0	140	19.0	48	This is the last ice thickness measurement received for the season. It was taken 500 m NW on the harbor facing the Bay Store. Surface was lightly ridged, no ice cracks observed during the Jan, Feb and May observations. This value is possibly the maximum ice thickness observed (Authors).
Cape Parry (NWT):		**Measurements made 250 m from north shore of Gillet Bay on Amundsen Gulf, 1-1/2 mi. south of meteorological observation station.**				
1976						
Nov	12	14.0	36	1.0	3	First ice thickness measurement for the season.
	19	15.0	38	1.0	3	
	26	19.0	48	1.0	3	Few ice cracks observed on 12, 19 and 26 Nov.
Dec	3	21.0	53	8.0	20	
	10	24.0	61	6.0	15	
	17	25.5	65	6.0	15	
	24	30.0	76	4.0	10	
	31	34.0	86	6.0	15	
1977						
Jan	7	35.0	89	6.5	17	
	14	35.0	89	8.0	20	
	21	37.5	95	8.0	20	
	28	40.0	102	10.0	25	
Feb	4	42.5	108	9.0	23	
	11	45.0	114	7.0	18	
	18	47.0	119	8.0	20	
	25	47.5	121	7.0	18	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Mar	4	51.0	130	8.5	22	
	11	51.0	130	8.5	22	
	18	53.0	135	11.0	28	
	25	52.0	132	13.0	33	
Apr	1	55.0	140	14.0	36	
	8	57.0	145	14.0	36	
	15	58.0	147	19.5	50	
	22	59.0	150	19.0	48	
	29	59.0	150	14.5	37	
May	6	60.5	154	16.0	41	
	13	61.0	155	16.0	41	
	20	62.5	159	13.5	34	
	27	64.0	163	12.0	30	Maximum ice thickness observed.
Jun	3	62.0	157	1.0	3	Water puddles 5 to 15 cm deep on the ice surface.
	10	61.5	156	1.0	3	
	17	55.0	140			
	24	47.0	119			Trace of snow on the ice on 17 and 24 April. Last ice thickness measurement for the season. Water covering 50% of the ice surface, depths of between 15 and 30 cm.
	25					Ice program eneded due to excessive water on the ice, no hydrofoil vehicles available.
Caraquet (New Brunswick):		**Measurements made on Caraquet Bay of inlet from the Gulf of St. Lawrence, 100 yd from the town wharf to the Island Caraquet.**				
1976						
Dec	3					Open water on this date.
	4					First ice formed on this date.
	10	12.0	30	2.0	5	
	17	17.0	43	3.0	8	
	24	6.0	15	6.0	15	Surface smooth. Ice thickness questionable (Authors).
	31	10.0	25	2.0	5	Snow cover drifted on 10, 17 and 31 Dec.
1977						
Jan	7	12.5	32			Snow cover in drifts.
	14	16.0	41	4.0	10	Snow cover hummocked.
	21	19.5	50	8.0	20	Snow cover hummocked.
	28	27.0	69	9.5	24	Snow cover hummocked. A lead with "big banks of ice" observed in the bay. Surface heavily ridged during Jan.
Feb	4	30.0	76			
	11	30.0	76			No snow depths observed during 4 and 11 Feb. Snow cover in drifts.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	18	28.0	71	8.5	22	
	25	26.0	66	12.0	30	Ice and snow banks observed near the Maisonette Bar.
Mar	4	26.0	66	12.0	30	
	11	26.0	66	10.0	25	
	18	25.0	64	9.0	23	
	25	25.0	64	5.0	13	5 cm of snow ice and 10 cm of water on the surface. Banks 62 cm in height at the Maisonette Bar.
Apr	1	30.5	77	4.0	10	10 cm water on the ice.
	8	36.5	93	2.0	5	Maximum ice thickness observed. Snow cover in drifts. No ice cracks observed since 10 Dec 1976.
	15	34.5	88	1.0	3	
	22	27.0	69	9.0	23	Cover consists of slush and water. Last ice measurement for the season. Two ice cracks observed on this date. Ice banks at the Maisonette Bar are 45 cm high.
Cartwright (NFLD):		**Measurements made midway between the IGA and village docks on Cartwright Harbour off Sandwich Bay, Coast of Labrador.**				
1976						
Dec	10	11.0	28	3.0	8	First ice thickness measurement for the season.
	17	18.0	46	4.0	10	
	24	19.0	48			No snow on the ice. A long ice crack observed running right across the harbor from dock to dock. Crack formed by extreme high tide. Crack soon filled with snow and closed up.
	31	22.0	56	2.0	5	
1977						
Jan	7	21.5	55	2.0	5	
	14	23.0	58	2.0	5	
	21	27.0	69	13.0	33	
	28	23.0	58	12.5	32	
Feb	4	24.0	61	20.0	51	
	11	30.0	76	18.0	46	
	18	31.0	79	17.0	43	
	25	31.0	79	16.0	41	
Mar	4	32.0	81	20.0	51	
	11	31.0	79	20.0	51	
	18	29.0	74	18.0	46	
	25	36.0	91	10.0	25	Snow depth consists of snow, slush and water mixed.
Apr	1	37.0	94	5.0	13	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	8	34.0	86	2.0	5	
	15	41.0	104	1.0	3	
	22	42.0	107	0.5	1	Maximum ice thickness observed.
	29	40.0	102			No snow on the ice.
May	6	28.0	71	12.0	30	Snow depth consists of snow, slush and water.
	13	24.0	61	12.0	30	No ice cracks observed since 31 Dec 1976.
	20	16.0	41	8.0	20	Snow depth consists of snow, slush and water. Ice thickness varies from 30 to 60 in. Last ice measurement for the season. Surface smooth since 10 Dec 1976.
	27					No further observations, ice is unsafe to get on.
Chalkyitsik (Alaska):		**Measurements made about 100 yd NE of the Episcopal Church, 100 ft from the bank on the Black River.**				
1976						
Oct	12					Freeze-up occurred on this date.
	16	2.0	5			First ice thickness measurement for the season.
	23	3.0	8			No snow on the ice on 16 and 23 Oct.
	30	5.0	13	6.0	15	Snow has fallen during the past two days. The river is still open in areas below the village.
Nov	6	10.0	25	12.0	30	
	13	12.0	30	10.0	25	Some areas have very little snow on the ice.
	20	15.0	38	20.0	51	
	27	20.0	51	25.0	64	
Dec	4	30.0	76	22.0	56	
	11	35.0	89	20.0	51	
	18	36.0	91	30.0	76	
	25	36.0	91	26.0	66	Wind has blown some snow off the ice.
1977						
Jan	1	36.0	91	26.2	67	
	8	35.0	89	24.0	61	
	15	36.0	91	20.0	51	Wind blown snow cover.
	22	34.0	86	22.0	56	
	29	34.0	86	24.0	61	Observer notes it has been a warm winter.
Feb	5	35.0	89	23.0	58	
	12	34.0	86	24.0	61	
	19	34.0	86	22.0	56	
	28	33.0	84	26.0	66	Not much change in the weather, it is still warm.
Mar	5	33.0	84	26.0	66	
	12	36.0	91	24.0	61	
	19	36.0	91	26.0	66	
	26	38.0	97	28.0	71	Windy on occasion during March.
Apr	2	38.0	97	28.0	71	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9	40.0	102	27.0	69	
	16	42.0	107	26.0	66	
	23	42.0	107	26.0	66	Maximum ice thickness observation 16 and 23 April. Snow is starting to melt. Water observed below the snow cover.
	30	41.0	104	28.0	71	
May	1					Ice unsafe for vehicular (snow-go) travel.
	5					Ice became unsafe to walk on.
	7	36.0	91			Last ice measurement for the season. No snow on the ice. Water on the ice along the shore. Observer reports surface smooth, numerous ice cracks since 16 Oct 1976.
	8					Ice sheet started moving at 3 PM, and then stopped.
	12					River is now free of ice.
Chandalar Lake (Alaska):		**Measurements made on Chandalar Lake, 50 ft from shore in front of the cabin.**				
1976						
Oct	27					First ice observed on this date.
	30	5.0	13			First ice thickness measurement for the season. No snow on the ice.
Nov	6	12.0	30	0.5	1	Few ice cracks observed on 30 Oct and 6 Nov.
	13	14.5	37	1.5	4	Ice cracks have mostly frozen over. Newer ones are only 1/4 in. wide and run in no particular direction.
	20	16.0	41	3.0	8	
	27	18.0	46	2.5	6	Surface smooth since 30 Oct.
Dec	4	19.0	48	10.0	25	Surface rippled.
	12	20.0	51	10.0	25	Surface smooth.
	18	20.0	51	10.0	25	
	26	21.0	53	10.0	25	Surface rippled on 18 and 26 Dec.
1977						
Jan	1	22.0	56	10.0	25	
	11	22.0	56	10.5	27	
	16	25.0	64	10.0	25	
	24	24.0	61	11.5	29	1/2 to 3 in. water overflow on top of the ice.
	29	33.0	84	3.0	8	Slush has frozen which added 9 in. to the ice sheet offshore.
Feb	7	34.0	86	3.0	8	1 in. crust of ice on the surface with 2 in. water between the crust and the solid ice.
	13	34.0	86	3.0	8	2 in. ice over 1 in. water over solid ice.
	22	34.5	88	3.5	9	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	37.0	94	5.0	13	
Mar	7	38.0	97	8.5	22	
	12	38.0	97	9.0	23	
	19	38.5	98	10.0	25	
	27	41.0	104	8.0	20	Maximum ice thickness observed. Surface moderately ridged since 1 Jan.
Apr	3	38.0	97	8.0	20	
	9	38.0	97	8.0	20	
	16	38.0	97	12.0	30	Surface rippled on 3, 9 and 16 Apr.
	23	39.0	99	12.0	30	
	30	40.0	102	10.0	25	
May	7	38.0	97	8.0	20	
	14	34.0	86			5 in. slush on the surface.
	17					5 ft of open water around the shore.
	21	30.0	76			Last ice thickness measurement for the season.
	28					Ice too rotten, not safe to walk on. No ice cracks observed since 13 Nov 1976.
Chena River (Alaska):		**Measurements made on the Chena River, 100 yd upstream of Nordale Bridge near Fairbanks.**				
1976						
Dec	2	13.0	33	5.0	13	First ice thickness measurement for the season. Some water overflow on the ice surface.
	9	15.0	38	5.0	13	
	16	20.0	51	4.0	10	
	21	21.0	53	4.0	10	
	27					No ice measurement, observer on Hawaiian vacation.
1977						
Feb	28					No ice observations received during Jan and Feb.
Mar	25	26.0	66	10.0	25	Last ice thickness measurement received for the season. Surface smooth during Dec and Mar. Maximum ice thickness unknown (Authors). Two ice measurements were made on this date, some water overflow was evident at one drilled hole.
Apr	1					Chena River ice unsafe for vehicular use or to walk on.
	15					River clear of ice and boating has begun.
Chesterfield Inlet (N.W.T.):		**Measurements made on Spurrel Inlet of Hudson Bay, about 2,000 ft E of the Transport of Canada operations building.**				
1976						

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Nov	19	14.5	37	0.5	1	First ice thickness measurements for the season. Few ice cracks observed.
	26	18.0	46	1.0	3	
Dec	3	27.5	70	1.0	3	
	10	36.5	93	1.0	3	
	17	45.0	114	1.0	3	
	24	53.5	136	1.0	3	Surface smooth since 19 Nov.
	31	48.0	122	2.5	6	No ice cracks since 26 Nov.
1977						
Jan	7	55.0	140	3.5	9	
	14	52.5	133	3.5	9	
	21	52.5	133	2.5	6	
	28	52.5	133	4.0	10	
Feb	4	52.5	133	2.5	6	
	11	53.0	135	2.5	6	
	18	51.0	130	2.5	6	Few ice cracks observed since 7 Jan.
	25	61.0	155	4.0	10	
Mar	4	62.0	157	4.0	10	
	11	62.0	157	3.0	8	
	18	62.0	157	4.0	10	
	25	62.0	157	4.0	10	Light to moderate ridging since 28 Jan.
Apr	1	62.0	157	4.5	11	
	8	63.0	160	3.5	9	
	15	70.0	178	5.0	13	
	22	70.5	179	4.0	10	Light to moderate ridging since 28 Jan.
	29	70.5	179	3.0	8	
May	6	71.0	180	3.0	8	
	13	72.0	183	1.0	3	Maximum ice thickness observed. Surface lightly rafted since 22 apr. Numerous ice cracks since 25 Feb.
	20					Many leads with the flow edge located 1/2 mi from shore. Ice thickness measurements discontinued, ice surface covered with water and slush up to 2 ft in depth. Numerous ice cracks along the shore.
	24					Aircraft report largest concentration of ice is at Chesterfield Inlet from Rankin Inlet north to Cape Fullerton. Ice clear of shore, or 1/4 mi. out from shore.

Churchill (N.W.T.): Measurements made in Churchill Harbour, about 600 ft from SW corner of main wharf at end of turning basin.

1976

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Dec	21	31.5	80	2.0	5	
	24	32.5	83	2.0	5	
	31	37.0	94			
1977						
Jan	7	40.0	102			
	14	43.5	110			Snow depths varied up to 30 cm since 31 Dec 1976.
	21	47.0	119			Snow depths varied from 15 to 30 cm.
	28					No ice measurement due to severe storm.
Feb	4	48.0	122			Snow depth varied from 0 to 30 cm.
	11	55.0	140			
	18	56.0	142			
	25	55.5	141			Snow depth varied from 15 to 30 cm since 11 Feb. Surface cracks since 21 Dec 1976.
Mar	4	58.5	149			
	11	58.5	149			Snow depths varied from 30 to 60 cm on 4 and 11 March.
	18	62.0	157			Maximum ice thickness observed. Snow depth varied from 20 to 91 cm.
	25	60.0	152			Snow depth varied from 15 to 76 cm. No unusual surface details, except for the slight changes in snow depths due to drifting, is apparent. Surface smooth since 21 Dec 1976. Last ice thickness measurement for the season.
Clyde (N.W.T.):		**Measurements made in Patricia Bay, 500 ft from shore.**				
1976						
Nov	12	13.0	33	1.0	3	First ice measurement for the season. No ice cracks observed.
	19	14.0	36	1.0	3	
	26	22.0	56	2.0	5	
Dec	3	24.5	62	2.0	5	
	10					No ice measurement on this date due to a storm
	12	29.0	74	2.0	5	
	17	29.5	75	2.0	5	
	24	34.5	88	2.0	5	
	31	36.0	91	4.0	10	
1977						
Jan	7	37.5	95	2.0	5	
	14	33.0	84	5.5	14	
	21	34.5	88	5.0	13	
	28	33.0	84	6.0	15	
Feb	4	38.5	98	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11	45.0	114	6.0	15	
	18	45.0	114	5.0	13	
	25	49.0	124	1.0	3	
Mar	4	51.5	131	3.0	8	
	11	53.0	135	3.0	8	
	18	54.5	138	4.0	10	
	25	58.0	147	2.0	5	Maximum ice thickness observed.
Apr	1	53.5	136	6.0	15	
	9	55.5	141	0.5	1	
	15	55.0	140	7.0	18	
	22	57.5	146	0.5	1	
	29	56.0	142	7.0	18	
May	6	54.5	138	0.5	1	
	13	52.5	133	4.0	10	
	20	55.0	140	1.0	3	
	27	54.5	138	1.5	4	
Jun	3	53.0	135	1.0	3	
	10	51.0	130	3.0	8	
	17	50.5	128	1.0	3	
	24	48.5	123	1.0	3	
Jul	1	46.5	118	3.0	8	
	8	47.5	121	1.0	3	
	15	41.5	105	1.0	3	Surface lightly ridged or rafted, and few ice cracks observed since 19 Nov 1976.
	22	39.5	100			Last ice thickness measurement for the season, ice too dangerous to walk on. No snow on the ice on this date with numerous ice cracks.

Coppermine (N.W.T.): Measurements made in the Coppermine River mouth, 150 yd NE of Ministry of Transport boathouse.

1976

Nov	6					Freeze-up of the river reported on this date.
	12	11.5	29	0.5	1	First ice thickness measurement of the season. Observer notes that freeze-up was late this year.
	19	13.0	33	1.5	4	Surface smooth on 12 and 19 Nov.
	29	18.0	46	1.5	4	
Dec	3	20.0	51	3.0	8	
	13	28.0	71	4.0	10	
	19	34.0	86	4.0	10	
	26	32.0	81	5.0	13	
	31	34.0	86	5.0	13	

1977

Jan	10	32.0	81	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	15	32.5	83	8.5	22	
	23	41.5	105	9.0	23	
	31	63.0	160	10.0	25	Ice thickness value given as reported, but it appears unrepresentative, unless it's a rafted ice location; probably should be 106 cm (and 42 in.). (Authors).
Feb	8	43.0	109	13.5	34	
	13	43.0	109	12.0	30	
	20	49.0	124	12.0	30	
	28	47.0	119	13.0	33	
Mar	8	51.0	130	14.0	36	
	21	49.5	126	17.5	44	
	29	54.0	137	15.0	38	
Apr	4	69.0	175	16.0	41	Maximum ice thickness observed. Value, however, may be over rafted ice (Authors).
	10	53.0	135	17.0	43	
	15	54.0	137	19.0	48	
	27	56.5	144	19.0	48	
May	1	58.5	149	24.0	61	
	9	58.0	147	32.0	81	
	17	56.0	142	47.5	121	Last ice thickness measurement for the season. Surface lightly or moderately rafted, and a few ice cracks observed since 29 Nov 1976.
	23					Observations discontinued, river mouth flooded over for about three days. The ice then rose above the water level and formed a definite shore lead about 3 ft wide.
Coral Harbour (N.W.T.):				**Measurements made on Munn Bay, 300 yd SW of the beach at SNAFU beacon.**		
1976						
Nov	26	16.0	41	1.0	3	First ice thickness measurement of the season.
Dec	3	22.0	56	1.0	3	
	17	30.0	76	1.5	4	
	24	30.0	76	2.0	5	
	31	38.0	97	2.5	6	
1977						
Jan	7	40.0	102	3.0	8	
	14	42.0	107	3.5	9	
	21	42.0	107	4.0	10	
	28					Ice observation delayed due to bad weather.
	31	45.0	114	4.0	10	
Feb	4	44.5	113	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	12	49.0	124	3.5	9	
	18	50.0	127	3.5	9	
	27	54.0	137	3.5	9	
Mar	5	54.0	137	6.0	15	
	11	55.0	140	5.0	13	
	19	55.0	140	8.5	22	
	25	55.0	140	8.5	22	
Apr	1	60.0	152	5.0	13	
	11	60.0	152	11.0	28	
	15	59.5	151	14.0	36	
	22	60.0	152	11.0	28	
	30	59.5	151	14.0	36	
May	6	59.0	150	15.5	39	
	13	59.5	151	13.0	33	
	20	66.0	168	7.0	18	Maximum ice thickness observed. It is possible that this sudden increase in thickness is a result of snow/ice formation on the ice sheet (Authors). Surface smooth, no ice cracks observed since 26 Nov 1976.
	27	62.0	157	10.0	25	
Jun	3	62.5	159	4.0	10	
	11	66.0	168	3.0	8	Maximum ice thickness also observed on this date. Last ice measurement for the season. Surface smooth, few ice cracks observed since 27 May. Ice surface mostly covered with meltwater. This, plus the cracks which are not visible under the water, make the ice hazardous.
Cornerbrook (NFLD): Measurements made on Humber Arm, 450 m off the south shore east of the church cove, opposite Rood Point on north shore, 2 mi. W of Bowater Mill.						
1977						
Jan	14	5.0	13	1.0	3	First ice thickness measurement for the season.
	21	6.0	15	0.5	1	
	28	8.5	22	0.5	1	
Feb	4	9.5	24	1.0	3	
	11	10.5	27	3.5	9	
	18	11.0	28	1.0	3	
	25	11.5	29	2.5	6	Shipping channel cut in ice to the dock area. No further observations received for the season.
Cree Lake (SASK): Measurements made on Cable Bay of Cree Lake, 100 yd off the station dock.						
1976						
Nov	26	8.5	22	1.5	4	First ice measurement for the season.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Dec	3	13.5	34	2.5	6	
	10	17.5	44	3.0	8	
	17	18.0	46	7.0	18	
	24	20.0	51	7.0	18	
	31	19.0	48	8.0	20	
1977						
Jan	7	21.5	55	10.0	25	
	14	22.5	57	8.5	22	
	21	24.5	62	9.0	23	
	28	24.5	62	9.0	23	
Feb	4	28.0	71	9.0	23	
	12	28.5	72	9.5	24	
	18	28.5	72	11.5	29	
	25	28.0	71	11.0	28	
Mar	4	28.0	71	10.5	27	
	11	30.0	76	10.5	27	
	18	31.5	80	12.5	32	
	25	31.0	79	16.0	41	
Apr	1	31.0	79	13.0	33	
	8	34.0	86	10.5	27	Maximum ice thickness observed.
	15	29.5	75			No snow on the ice. 1-in. layer of water on the ice. a 2 to 3 ft open lead along the shore.
	22	29.0	74	1.5	4	Last ice thickness measurement for the season. A 1.5 to 2 ft open lead along the shore. Surface smooth, and a few ice cracks since 26 Nov 1976.
	29					No observation due to unsafe conditions, a 10 to 12 ft open lead along the shore.
Eagle (Alaska):		**Measurements made on the Yukon River, mid-stream between Eagle and Belle Island.**				
1976						
Dec	7					Ice stopped running at 10 PM on this date.
	11	7.0	18			No snow on the ice.
	18	12.0	30	2.0	5	
	25	20.0	51	2.5	6	
1977						
Jan	1	33.0	84	2.0	5	
	8	27.0	69	2.0	5	
	15	28.0	71	2.0	5	
	22	36.0	91	3.0	8	Maximum ice thickness observed. Sudden increase in ice thickness was not explained (Authors).
	29	29.0	74	5.0	13	
Feb	5	29.0	74	9.0	23	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	12	29.0	74	9.0	23	
	19	29.0	74	8.0	20	Air temperature at observation time was 43 deg F with a strong east wind.
	26	29.0	74	7.0	18	
Mar	5	30.0	76	9.0	23	
	12	29.0	74	14.0	36	
	21	29.0	74	12.0	30	
	28	28.0	71	12.0	30	
Apr	2	29.0	74	12.0	30	
	9	27.0	69	10.0	25	
	16	26.0	66	10.0	25	Last ice thickness measurement for the season. Surface smooth since 11 Dec 1976. Ice soaked with water, with some on the top.
	23					Too much water on the ice, unable to get on the river to make the ice measurement.
	26					River ice unsafe for snowmobile traffic.
	29					200 ft of open water by Eagle Bluff.
May	3					River ice unsafe to walk on.
	5					River ice moved.
	18					River free of ice and boating began.
Emmonak (Alaska):		**Measurements made on the lower Yukon River.**				
1977						
Apr	16	41.0	104	13.0	33	First ice thickness measurement for the season. Only one month of data (Apr) was received from Emmonak this winter (Authors). Surface cover consists of 1 ft of thin crust and some powder snow. Maximum ice thickness observed.
	23	38.0	97	11.0	28	
	30	40.0	102	7.0	18	Surface smooth, no ice cracks since 16 Apr. Snow is melting, surface is very wet and heavy. Some water showing up along the edges of the ice along the Kwiguk. Last ice thickness measurement for the season.
Ennadai Lake (N.W.T.):		**Measurements made on Ennadai Lake, 100 yd from shore on a line formed by the house front door and the flagpole.**				
1976						
Nov	5	10.0	25	2.0	5	First ice thickness measurement for the season. Some open spots, one about 10 x 10 ft in size located 200 yd from shore.
	12	16.5	42	2.0	5	
	19	20.0	51	2.0	5	Surface lightly ridged on 5, 12 and 19 Nov.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	23.5	60	3.0	8	
Dec	3	29.5	75	4.0	10	
	10	35.5	90	4.0	10	
	17	41.0	104	4.0	10	
	24	44.0	112	5.0	13	
	31	48.0	122	6.0	15	A pressure ridge 4 ft high extends 3/4 mi NNW/SSE starting 1/2 mi. W of station and going northward.
1977						
Jan	7	50.0	127	6.0	15	
	14	52.5	133	7.0	18	
	21	55.0	140	7.5	19	
	28	55.5	141	7.5	19	
Feb	4	58.0	147	8.0	20	
	11	58.5	149	8.0	20	
	18	60.0	152	8.5	22	
	25	60.5	154	8.5	22	
Mar	4	60.0	152	8.5	22	
	11	55.0	140	8.0	20	
	18	57.0	145	8.0	20	
	25	57.0	145	8.0	20	
Apr	1	57.5	146	8.0	20	
	8	60.0	152	8.0	20	
	15	63.0	160	6.5	17	
	22	66.0	168	7.0	18	
	29	69.0	175	5.0	13	
May	3					Melting and freezing period commenced.
	6	71.0	180	4.0	10	Maximum ice thickness observed. Surface smooth, few ice cracks since 26 Nov 1976.
	9					Large puddles of water and slush from runoff during the past 3 days.
	12					Only a trace of snow cover left on the ice. Large crack running parallel to shore 200 yd out.
	13	63.5	161			Trace of snow on the ice.
	20	53.0	135			Ice sheet breaking away from shore. Thickness near shore is about 10 cm.
	27	42.0	107			Ice is about 40 ft from shore. Observer canoed out, no leads or ice movement. Last ice measurement for the season.
	31					Ice is now about 80 ft from shore.
Jun	3	31.0	79			Ice edge now about 100 ft from shore.
	9					First ice movement with strong winds.
	10					Ice covered with 1 cm of new snow, small chunks breaking off the edge which is about 100 ft from shore. Ice too dangerous to walk on.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11					Ice has broken up into large sections.
	17					Ice is moving.
	18					Lake free of ice, drifted southward with strong winds.
Eureka (N.W.T.):		**Measurements made in Slidre Fiord, 100 yd due south of the jetty.**				
1976						
Oct	1	11.0	28			First ice thickness measurement, no snow on the ice.
	8	13.5	34	2.0	5	
	15	20.0	51	2.0	5	
	22	20.5	52	2.0	5	
	29	27.0	69	1.0	3	
Nov	5	27.5	70	1.0	3	
	12	34.0	86	1.0	3	
	19	36.5	93	6.5	17	
	26	39.0	99	4.0	10	Ice cracking near observation site. Observer will have to move to a new location.
Dec	4	50.5	128	4.0	10	The Dec ice measuring site was moved about 1 m away.
	11	48.0	122	4.0	10	
	17	48.5	123	3.0	8	
	24	51.0	130	5.0	13	
	31	53.0	135	4.0	10	
1977						
Jan	7	54.0	137	6.5	17	
	15	58.0	147	4.0	10	
	21	58.0	147	7.0	18	
	28	65.0	165	5.0	13	
Feb	4	61.5	156	7.0	18	
	11	64.0	163	9.0	23	
	18	69.0	175	12.0	30	
	26	69.0	175	7.0	18	
Mar	5	70.0	178	8.0	20	
	11	75.0	191	5.5	14	
	18	77.0	196	7.0	18	
	25	80.0	203	3.5	9	
Apr	1	80.5	204	8.5	22	
	9	83.0	211	7.5	19	
	16	85.0	216	7.5	19	
	23	82.0	208	12.0	30	
	29	87.0	221	12.0	30	
May	6	84.5	215	11.0	28	Measurements now being made 100 yd south of

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						the north shore on Slidre Fiord.
	13	85.0	216	12.5	32	
	20	84.0	213	12.0	30	
	28	88.5	225	12.0	30	Maximum ice thickness observed. Last ice measurement for the season. Surface smooth to lightly ridged, few ice cracks since 8 Oct 1976. No leads, and now numerous ice cracks observed.
Fairbanks (Alaska)(Univ. Exp. Sta.)		**Measurements made in Smith Lake, 5.2 km north of National Weather Service Office at Fairbanks International Airport.**				
1976						
Oct	9					No ice yet on Smith Lake. However, almost continuous ice on Ballaine Lake and other surrounding lakes. Smith Lake is very low this fall.
	16	1.5	4			Ice thickness estimated. Smith Lake is ice-covered but unsafe to walk on. Snow melted through in patches.
	23	5.0	13	1.0	3	
	30	8.5	22	1.0	3	Lake water overflow has inundated most of the snow on the ice.
Nov	6	10.5	27	1.0	3	Very little snow anywhere.
	13	11.5	29			Water has overflowed snow cover in central 2/3 of the lake.
	20	14.0	36	1.0	3	Surface smooth, no ice cracks visible since 23 Oct.
	27	15.5	39	1.0	3	Few ice cracks seen.
Dec	3	18.5	47	3.5	9	
	10	21.0	53	2.5	6	
	17	23.0	58	3.0	8	
	24	24.5	62	3.0	8	
	31	27.0	69	3.0	8	Relatively high air temperatures, but little snow cover insulation and lots of ice.
1977						
Jan	7	28.5	72	3.0	8	
	14	30.0	76	4.5	11	
	23	31.0	79	4.5	11	
	29	32.0	81	6.0	15	Observer states - "lots of ice."
Feb	5	32.0	81	12.5	32	
	13	32.0	81	10.5	27	
	19	32.0	81	9.0	23	
	26	32.5	83	9.0	23	Some slight water overflow during the past week, but it did not inundate or collapse much snow.
Mar	5	32.5	83	12.5	32	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	12	33.0	84	12.0	30	
	19	33.5	85			No snow cover data.
	26	33.5	85	13.5	34	
Apr	2	34.0	86	10.0	25	
	9	34.0	86	10.5	27	
	16	35.0	89	12.5	32	
	23	35.0	89			Some slush only on the surface from melting snow cover.
	30	35.0	89			Maximum ice thickness observed on 16, 23 and 30 Apr. Last ice thickness measurement for the season. First real weakening of the ice.
Fort Chimo (QUE):		**Measurements made in Lake Stewart, about 5 mi. NW of station. Site 500 ft from beach on SE corner of lake, similar to last year's location.**				
1976						
Nov	12	9.5	24	5.0	13	First ice thickness measurement for the season.
	19	11.0	28	5.0	13	
	26	11.5	29	6.0	15	
Dec	3	11.5	29	5.0	13	
	10	16.0	41	5.0	13	
	20	21.0	53	6.0	15	
	24					No ice measurement made due to the very low temperatures.
	31	25.0	64	1.0	3	
1977						
Jan	7	28.0	71	2.0	5	
	14	32.0	81	3.0	8	
	20	31.0	79	3.0	8	
	29	41.5	105	6.0	15	Ice thickness value shown is as given (Authors).
Feb	4	34.0	86	8.0	20	
	11	36.0	91	14.0	36	
	19	37.0	94	14.0	36	
	26	46.0	117	8.0	20	
Mar	4	46.0	117	5.0	13	
	12	44.0	112	7.0	18	
	18	49.0	124	5.0	13	Maximum ice thickness observed.
	26	46.0	117	10.0	25	
Apr	1	44.0	112	8.0	20	
	15	45.0	114	14.0	36	
	22	45.0	114	12.0	30	
	29					No ice measurements made on 8 and 29 April due to very low temperatures.
May	6	47.0	119	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	13					Ice measurement not made, site was inaccessible due to partial thawing enroute.
	20	44.0	112	0.5	1	Last ice thickness measurement for the season.
	27					Site was judged too unsafe to reach due to large amounts of water and slush on the borders of the lake.
Fort Chipewyan (ALTA):		**Measurements made on Lake Athabasca, 1000 ft S of Dept. of Public Works dock.**				
1976						
Oct	17					Ice forming on the bays.
	21					Ice jam at Doghead.
Nov	8					Several open holes on the Delta River system (in- and out-flowing). Lake Athabasca is open from Bustard Island east.
Dec	10					Solid ice cover on the lake, but very thin in most places.
1977						
Jan	7	6.0	15	4.0	10	First ice thickness measurement for the season.
	14	7.0	18	4.0	10	
	20					Light ridging appeared 3 mi. east of Ft. Chipewyan.
	21	10.0	25			No snow on the ice.
	28	12.5	32	2.0	5	
Feb	4	19.5	50	2.0	5	
	11	18.0	46	3.0	8	
	18	17.0	43	1.0	3	
	25	18.0	46	1.0	3	Water overflow in several locations on the lake between the Fort and Bustard Island. Evidence of ridging on the west end of the lake.
Mar	4	19.0	48	1.0	3	
	11	19.0	48	2.0	5	
	18	17.0	43	3.0	8	
	25	20.0	51	2.0	5	Maximum ice thickness observed.
Apr	1	18.0	46	2.0	5	
	7	16.5	42	4.5	11	
	15	15.0	38			No snow on the ice. Last ice thickness measurement for the season. Surface smooth, no ice cracks observed since 7 Jan.
	16					Numerous open holes appeared in the channel.
	17					A large hole, 1000 square ft in size about 3 mi. up on the lake.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Fort Yukon (Alaska): Measurements made on Hospital Lake, near the airport.						
1977						
Jan	30	28.0	71	10.0	25	Only ice measurement received for the season at Ft. Yukon.
Frobisher Bay (NWT): Measurements made on Koojessee Inlet about 200 yd from Ministry of Transport Causeway.						
1976						
Nov	18					Koojessee Inlet now ice covered.
Dec	3	21.0	53	2.0	5	
	10	24.0	61	2.0	5	
	17	25.5	65	2.0	5	
	24	27.0	69	11.0	28	
	31	34.0	86	9.0	23	
1977						
Jan	7	34.0	86	9.0	23	
	14	36.0	91	22.0	56	
	21	34.0	86	10.0	25	
	28	34.0	86	13.5	34	
Feb	4	34.5	88	8.0	20	
	11	37.0	94	6.0	15	
	18	39.0	99	10.0	25	
	25	37.0	94	12.5	32	
Mar	4	38.0	97	10.0	25	
	11	39.5	100	10.0	25	
	18	44.0	112	16.0	41	
	25	41.0	104	12.5	32	
Apr	1	43.0	109	15.5	39	
	8	44.0	112	17.0	43	
	15	46.0	117	24.0	61	
	22	46.5	118	20.0	51	
	29	43.0	109	15.0	38	
May	6	40.0	102	17.0	43	
	13	52.0	132	6.0	15	Maximum ice thickness observed. Possible added ice accumulation may be due to frozen snow ice (Authors).
	20	49.0	124	2.0	5	
	27	50.5	128	2.0	5	
Jun	3	48.0	122	1.5	4	Surface smooth, no ice cracks since 3 Dec 1976.
	10	46.0	117	1.0	3	Few ice cracks.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	17	33.0	84			Numerous holes and puddling on 10 and 17 June. Narrow lead along causeway.
	24	16.0	41			Surface smooth, numerous ice cracks and a trace of snow on the ice on 17 and 24 June. Last ice measurement for the season. A lead observed in the vicinity of the causeway. Rapid deterioration of the ice sheet, 30% holes, 30% puddles and a few bergy bits and growlers.
	28					The inlet broke open during the night.
Gimli (MAN):		**Measurements made on Lake Winnipeg, 300 yd east of the seawall.**				
1976						
Dec	3	13.5	34			First ice thickness measurement for the season. Two refrozen ice cracks originally 9 cm wide. Ice is very active (i.e., numerous cracks) but all less than 1 cm wide. Few snow drifts 1 to 3 cm high.
	10	19.0	48	2.5	6	
	17	23.0	58	3.0	8	Ice is 30% clear of snow.
	24	25.5	65	5.0	13	
	31	29.0	74			Snow cover in drifts, 13 to 18 cm high. No snow at the ice measuring site.
1977						
Jan	7	32.0	81			Snow drifts 10 cm high, only 1 cm of snow at the ice observation point.
	14	37.0	94	1.5	4	
	21	39.5	100	4.5	11	
	28					No ice measurement made on this date. Numerous ice cracks since 3 Dec 1976.
Feb	3	41.0	104	4.0	10	
	11	43.5	110	2.5	6	
	18	44.5	113	5.0	13	
	25	44.5	113	4.0	10	
Mar	4	47.0	119	6.0	15	
	11	48.0	122	3.5	9	Last ice thickness measurement for the season. Maximum ice thickness observed. Surface smooth since 3 Dec 1976, and few ice cracks since 3 Feb. 20 cm of slush under the snow cover.
	18					Measurements terminated for the season due to water runoff.
Goose Bay (NFLD):		**Measurements made on Terrington Basin (no specific location given).**				
1976						
Dec	10	8.5	22	1.0	3	First ice thickness measurement for the season.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	16	17.5	44	2.0	5	No ice cracks observed.
	24	25.5	65	1.5	4	
	31	27.5	70			No snow on the ice. Few ice cracks observed on 10, 24 and 31 Dec. After several days of above-normal air temperatures shallow pools of water were observed on the ice around the Terrington docks.
1977						
Jan	7	27.5	70	9.0	23	
	14	28.0	71	11.0	28	
	21					No ice measurement, observer was unable to get on the main ice sheet because of surface water and slush along the shore.
	24	28.0	71	16.0	41	
	28	29.0	74	16.0	41	
Feb	4	29.0	74	19.0	48	
	11	29.0	74	23.0	58	
	18	30.0	76	18.0	46	
	25	31.0	79	19.0	48	Approximately 5 cm slush visible next to the ice surface.
Mar	4	32.0	81	23.0	58	Snow cover consists of 36 cm snow plus 22 cm of slush and water.
	11	34.0	86	24.0	61	Snow cover consists of 14 cm slush plus 47 cm of snow.
	18	41.0	104	14.0	36	Ice thickness consists of 8 cm of ice on top of 18 cm of water which is all on top of a base layer 78 cm thick.
	25	42.0	107	3.0	8	Maximum ice thickness observed. Ice thickness consists of 8 cm of ice on top of 25 cm of water which is all on top of base ice layer 74 cm thick.
Apr	1	41.0	104	1.0	3	Ice thickness 8 cm of ice, 22 cm water, and 74 cm main ice sheet.
	8	40.0	102	1.0	3	Ice thickness 18 cm of ice, 8 cm water and 76 cm main ice sheet.
	15	38.0	97	1.0	3	No ice cracks since 7 Jan.
	22	37.5	95	1.0	3	
	29	36.0	91			No snow on the ice. Top 33 cm of ice is very soft.
May	6	24.0	61	1.0	3	Last ice thickness measurement for the season. Top 18 cm of ice is very soft.
	13					Numerous cracks and holes on the ice surface. Ice deemed unsafe. Surface smooth since 10 Dec 1976.

Hall Beach (N.W.T.): Measurements made on Foxe Basin, 100 yd off the end of the Sealift wharf.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Oct	22	9.5	24	1.0	3	First ice thickness measurement for the season.
	29	15.0	38	1.5	4	
Nov	5	18.0	46	2.0	5	
	12	21.5	55	2.5	6	
	19	24.0	61	3.0	8	
	27	31.0	79	3.0	8	
Dec	3	32.0	81	3.0	8	
	10					No ice measurement made due to bad weather.
	17	39.0	99	3.0	8	
	24	45.5	116	3.0	8	A large lead along the edge of the shorefast ice opens or closes depending on the direction of the wind. The lead is up to 3/4 mile wide.
	31	46.0	117	3.0	8	Due to the warm weather the ice was very wet and soft. The observer was unable to drill a hole through the ice. The thickness was estimated from the previous readings and consideration of the warm air temperatures last week.
1977						
Jan	9	48.5	123	5.0	13	
	15	49.0	124	5.0	13	
	21					No ice measurement was made because the ice sheet was too soft for drilling.
	28	52.0	132	4.0	10	Ice sheet was still slushy. The large lead 3/4 miles offshore was not apparent on this date.
Feb	4	51.5	131	6.0	15	
	11	53.0	135	7.0	18	
	18	53.0	135	7.0	18	
	25	57.0	145	10.0	25	A large lead estimated at 1-1/2 to 2 miles offshore was observed on 1, 18 and 25 Feb.
Mar	4	60.0	152	8.0	20	
	11					No ice measurements made on this date.
	18	75.0	191	4.0	10	About 1 mi. offshore is a large "blind" lead, extending from north of the station to the east.
	25	79.5	202	6.5	17	From an aircraft (a Twin-Otter), the ice was reported to be very broken up. Large patches of water exist, and the existing ice does not appear to be very thick. This condition is noticeable up to 10 mi. north of the station. Maximum ice thickness observed.
Apr	1	67.0	170	11.5	29	
	15	71.0	180	8.0	20	
	22	68.0	173	10.0	25	Surface smooth since 22 Oct 1976.
	29	72.0	183	10.0	25	Surface lightly rafted. Open water with moving ice

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						about 1-1/2 mi. offshore.
May	7	71.0	180	12.0	30	
	14	75.5	192	12.5	32	
	22	75.5	192	9.0	23	
	28	69.5	177	7.0	18	Surface smooth since 7 May.
Jun	4	71.0	180	15.0	38	
	10	70.0	178	6.5	17	Last ice thickness measurement for the season. Few ice cracks observed since 22 Oct 1976.
	16					Ice survey terminated for the season due to poor ice conditions.
Harrington Harbour (QUE):		**Measurements made in body of harbor water that separates Harrington Island from mainland.**				
1976						
Dec	10					First freeze-up observed.
	12					Ice moved out on this date.
	14					Freeze-up occurred again.
	19	8.0	20	3.0	8	First ice thickness measurement for the season. Snowmobile vehicle being used on the ice.
	26	12.5	32	2.0	5	
	31	14.0	36	6.0	15	
1977						
Jan	8	16.0	41	3.0	8	
	15	17.5	44	5.0	13	
	22	20.0	51	10.5	27	
	28	20.5	52	12.0	30	
Feb	4	23.0	58	7.0	18	
	11	26.5	67	4.5	11	
	18	27.0	69	6.5	17	
	25	28.5	72	3.5	9	
Mar	4	30.0	76	4.0	10	
	11	29.5	75	4.5	11	
	18	32.0	81	12.5	32	
	26	32.5	83	7.5	19	Maximum ice thickness observed.
Apr	1	32.0	81	8.5	22	
	8	31.5	80			No snow on the ice.
	15	26.0	66	1.0	3	
	22	18.0	46			No snow on the ice. Last ice thickness measurement for the season. Surface smooth, no cracks since 19 Dec 1976.
	27					Last day snowmobile vehicles were used on the ice.
	29					Ice now unsafe to walk on, ice opening around

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						some areas, and where the tide currents are located.
Havre Ste. Pierre (QUE):		**Measurements made on Mingan Channel inside the Q.I.T. dock, midway between No. 1 and No. 2 dolphins.**				
1977						
Jan	14	14.5	37	2.0	5	First ice thickness measurement for the season.
	28					No ice measurements made on 21 or 28 Jan. Ice was too unsafe to walk on.
Feb	4	22.0	56	2.0	5	
	12	22.0	56	3.0	8	
	18	21.5	55	2.5	6	
	25	21.0	53	13.0	33	
Mar	4	23.0	58	4.5	11	No ice cracks observed since 14 Jan.
	11	24.5	62	3.0	8	Maximum ice thickness observed. Last ice thickness measurement for the season. Numerous ice cracks on this date. Surface smooth since 14 Jan.
	17					All ice at the measurement ice is gone.
Hopedale (NFLD):		**Measurements made on Hopedale Harbour, about on a line from USAF dock to Ellen Island, as used as a runway for small aircraft.**				
1976						
Dec	17	16.0	41			First ice thickness measurement for the season. No snow on the ice.
	22					First aircraft landing on the ice on this date.
	24	20.0	51	6.0	15	
	31	21.0	53	3.0	8	Ice cover also consists of slush and water. Ice measurements during Dec were made to the nearest whole inch.
1977						
Jan	7	25.5	65	7.0	18	
	14	27.5	70	7.0	18	
	21					Ice measurement delayed due to poor weather.
	22	28.0	71	13.0	33	Surface smooth since 17 Dec 1976.
	28	29.0	74	10.0	25	
Feb	4	31.0	79	11.5	29	Ice measurement now being made in cm. Maximum ice thickness observed. However, no measurements were received after 25 Feb when thicker ice may have occurred (Authors).
	11	30.0	76	14.5	37	
	25	30.5	77	10.0	25	Last ice thickness measurement for the season.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Inoucdjouac (QUE):		**Measurements made on Innuksuak River, 200 m from bank and NE of dock of Hudson Bay store and about 800 m from mouth of river.**				
1976						
Dec	11	17.0	43	0.5	1	First ice thickness measurement for the season. Some ice cracks observed.
	17	30.0	76	0.5	1	Numerous ice cracks observed.
	24	36.5	93	0.5	1	
	31	43.0	109	2.5	6	No ice cracks observed on 24 and 31 Dec. Another ice observation taken at the mouth of the river (i.e., at the southern extremity of the winter road) was 69 cm thick.
1977						
Jan	7	46.0	117	7.0	18	
	14	49.0	124	6.0	15	
	21	47.0	119	5.0	13	
	28	51.0	130	5.0	13	No ice cracks observed since 31 Dec 1976.
Mar	4	65.0	165	8.5	22	Feb data are missing.
	11	60.0	152	13.0	33	
	18	63.0	160	13.5	34	Some ice measuring equipment lost due to steel wire breaking.
	25	70.0	178	7.0	18	
Apr	1	75.0	191	8.0	20	
	8	72.0	183	8.0	20	
	15	83.0	211	2.0	5	
	22	82.0	208	2.0	5	
	29	89.0	226	1.0	3	Maximum ice thickness observed.
May	6	70.0	178	10.5	27	
	13	79.0	201	1.0	3	
	20	77.0	196	1.0	3	
	27	67.5	171	1.0	3	Few to no ice cracks observed since 4 Mar.
Jun	3	72.0	183	0.5	1	
	10	69.0	175			Last ice thickness measurement for the season. No snow on the ice. Two channels have formed near the bank, 2 m wide and 1 km long beginning at the mouth of the river. Surface smooth since 11 Dec 1976. Numerous ice cracks on 3 and 10 June, no further observations possible.
Inuvik (N.W.T.		**Measurements made on the east branch of the Mackenzie River, 80 yd offshore of old N.T.C.L. dock in town.**				
1976						

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Oct	29	8.0	20	2.0	5	First ice thickness measurement for the season.
Nov	5	10.0	25	4.0	10	
	12	8.0	20	5.0	13	
	19					No ice measurement made, vehicle not available.
	26	7.5	19	6.0	15	
Dec	3	10.0	25	8.0	20	
	10	13.0	33	8.0	20	
	17	17.0	43	10.0	25	
	24	12.5	32	10.5	27	
	31	13.0	33	10.0	25	Ice thickness seems to be very irregular. There is also always a continuous flow of water up through the hole after drilling. A lot of water overflow is being reported on the lakes in the area.
1977						
Jan	7	14.0	36	11.0	28	
	14	16.0	41	12.0	30	
	21	20.0	51	12.0	30	
	28	20.5	52	13.0	33	
Feb	4	20.5	52	15.0	38	
	11	20.0	51	12.0	30	
	18	28.0	71	10.0	25	Maximum ice thickness observed.
	25	22.0	56	12.5	32	
Mar	4	21.0	53	12.0	30	
	11	25.0	64	12.5	32	
	18	25.5	65	12.0	30	
	25	24.0	61	12.0	30	
Apr	1	27.0	69	13.0	33	
	8	27.0	69	12.0	30	Two loaded gravel trucks went through the ice at Aklavik N.W.T. in early April.
	15	26.5	67	12.0	30	
	22	24.0	61	6.5	17	Water existed along the river bank between 21 and 27 April. It's been very warm, but freezing temperatures returned. It is "tricky" getting out to the measuring site.
	27					
	29	25.5	65	6.0	15	Last ice thickness measurement for the season. Surface smooth, no ice cracks since 29 Oct 1976.
Isachsen (N.W.T.):		**Measurements made on Louise Bay, 400 ft offshore, 140 deg turn from the GMD antenna.**				
1976						
Sep	10	6.5	17			First ice thickness measurement for the season.
	17	8.5	22			
	24	13.0	33			Surface lightly ridged.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Oct	1	14.5	37			Trace of snow on the ice since 10 Sep.
	8	17.5	44	4.0	10	Ridge of ice observed along the shore.
	15	19.0	48	3.0	8	Surface smooth, no ice cracks since 1 Oct.
	22	25.5	65	1.0	3	
	30	26.0	66	2.0	5	
Nov	5	23.0	58	4.0	10	
	12	28.0	71	5.0	13	
	19					Observation delayed due to inclement weather.
	20	34.5	88	3.0	8	
	26	37.5	95	3.0	8	
Dec	3	39.0	99	5.0	13	
	10	45.5	116	4.0	10	
	17	48.0	122	5.0	13	
	24					Observation delayed due to high winds.
	27	54.0	137	6.0	15	Numerous ice cracks since 22 Oct.
	31	50.0	127	4.0	10	
1977						
Jan	7					Observation delayed due to high winds.
	8					Observation delayed due to aircraft preparation activity.
	9	58.0	147	4.0	10	
	14	58.0	147	7.0	18	
	21	55.0	140	5.0	13	Few ice cracks since 31 Dec 1976.
	28	60.5	154	4.0	10	
Feb	4	63.0	160	6.0	15	
	11	67.5	171	10.0	25	
	18	69.0	175	12.0	30	
	25	77.5	197	8.0	20	
Mar	4	79.0	201	4.0	10	
	11	80.0	203	7.0	18	
	18	83.0	211	3.0	8	
	25	85.5	217	4.0	10	Numerous ice cracks since 28 Jan.
Apr	1	87.0	221	7.0	18	
	8	86.0	218	8.0	20	Small ice cracks along the shore.
	15	86.0	218	8.0	20	
	22	87.0	221	8.0	20	
	29	92.5	235	8.0	20	
May	6	96.0	244	13.0	33	
	13	96.0	244	10.5	27	Maximum ice thickness observed on 6 and 13 May.
	20	95.5	243	19.0	48	
	27	91.0	231	18.0	46	
Jun	3	92.0	234	14.0	36	
	10	93.0	236	14.0	36	Last ice thickness measurement for the season.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Surface smooth since 22 Oct 1976, and few ice cracks observed since 4 March.
	17					Ice unsafe for further measurements. Shore lead opening up, and water now on the ice.
Island Lake (MAN):		**Measurements made at a point about 5,000 ft SW of weather station.**				
1976						
Nov	25					Lake froze over on this date. Slush ice was present in significant amounts throughout the month.
Dec	10	12.0	30	2.0	5	First ice thickness measurement for the season.
	17	11.5	29	9.0	23	
	24	14.0	36	22.0	56	
	31	14.0	36	8.5	22	
1977						
Jan	7	22.0	56	8.5	22	
	14	23.0	58	2.5	6	
	21					Measurement delayed one day.
	22	23.5	60	10.5	27	
	28					No measurement made, observer unable to reach the observation site due to excessive slush ice.
Feb	4	18.0	46	13.5	34	Layer of frozen slush over the ice.
	12	26.0	66	13.5	34	
	18	32.0	81	10.5	27	
	25	25.5	65	6.5	17	10 in. of slush ice at the measuring site.
Mar	4	24.5	62	15.5	39	About 10 to 12 cm slush ice included.
	11	29.5	75	10.5	27	
	18	24.0	61	6.0	15	
	25	29.0	74	5.0	13	Approximately 22 cm of slush ice included in the March 18 and 25 readings. Ice on this date seems "soft" or saturated with water throughout its entire depth.
Apr	1	30.5	77	6.0	15	Slush ice 22 cm in depth.
	8	33.5	85	4.5	11	Maximum ice thickness observed. Few to no ice cracks observed since 10 Dec 1976. Slush ice 15 cm in depth.
	15	22.0	56			Slush and slush ice 23 cm in depth.
	22	21.5	55			No snow on the ice on 15 and 22 April. Last ice thickness measurement for the season. Ice near the shore becoming candled. Numerous ice cracks on 15 and 22 April. Surface smooth since 10 Dec 1976.
	29					Ice survey ended due to the commencement of breakup.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
King Salmon (Alaska): Measurements made on Naknek River off the U.S. Air Force boat dock.						
1976						
Oct	26					First shore-to-shore ice formed on this date, thickness estimated to be 1/2 in.
	27					River ice broke up and moved out with the tide.
	30					Shore ice formed on this date.
Nov	6	3.5	9			River ice was shore-to-shore in most places. No snow on the ice, and surface smooth on 26 Oct and 6 Nov. Open channels about 3 ft wide in some places.
	20					Shore ice only on 13 and 20 Nov.
	27					Warm weather since 13 Nov with rain and 40 deg F temperatures on this date. Shore ice only.
Dec	4					Fairly warm on this date followed by a cold spell. Shore ice only.
	11	8.0	20	0.5	1	
	18	4.0	10	0.5	1	Surface heavily ridged since 13 Nov.
	25	6.0	15	1.0	3	Weather is warm. Windy and snowing on and off on this date. Surface moderately ridged.
1977						
Jan	1	14.0	36	0.5	1	Weather continues to be warm. Ice measurements to date were made 20 ft from shore. Maximum ice thickness observed.
	8	13.5	34	0.5	1	Ice measurement made 90 ft from shore. Surface lightly ridged on 1 and 8 Jan. Few ice cracks since 11 Dec 76. Observer notes that previous records show that ice thickness is usually three times thicker on this date.
	15	11.0	28			
	22	9.0	23			No snow on the ice on 15 and 22 Jan.
	29					Shore ice only, mainly on the north side.
Feb	19					During the first three weeks in Feb, the ice was only on the banks of the river.
	26					Ice now extended to about 50 ft from shore, but the ice was just chunks stuck together, so no thickness measurement was possible.
Mar	5	5.0	13			Surface moderately to heavily ridged since 15 Jan.
	12	8.0	20			
	19	3.0	8			Surface lightly ridged on 12 and 19 Mar.
	26					Shore ice only extending 40 ft out. A channel has formed in the middle of the river with ice floating in it. 1 in. snow on the shore ice.
Apr	2					Shore ice extending 15-20 ft off shore.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9					Most ice has moved up on the shore with some still extending over the water to about 10-15 ft.
	16					More ice observed this week, most of it is ice flowing up and down the river.
	23					Most ice extending over the water is gone. Remainder of ice extends 5 to 10 ft over the ice.
	30					River now free of ice. Observer notes that there was no actual ice breakup this year. During Dec 1976 there was lots of ice, but not in the mainstream current. Warm air temperatures then melted most of the ice by mid Jan 1977, when it then flowed out with the tide. In late Feb ice reformed and lasted until mid Mar.
Koartak (A) (QUE):		**Measurements made on Diana Bay, at about 1 mile north of the station.**				
1976						
Dec	1					Bay is completely frozen over.
	3	12.0	30			First ice measurement for the season.
	11					Measurement delayed due to cold and drifting snow.
	12	17.0	43			
	17	23.0	58			
	24	26.0	66			
	31	27.5	70			No more leads observed.
1977						
Jan	7	28.0	71			No snow on the ice since 3 Dec 1976.
	14	30.0	76	1.0	3	
	21	31.5	80	2.0	5	
	29	30.5	77	7.5	19	
Feb	11					No measurements made on 4 and 11 Feb, observer is at meetings in Montreal.
	18	36.0	91	7.5	19	
	25	38.0	97	7.5	19	
Mar	4	39.0	99	2.0	5	
	12	40.0	102	2.0	5	
	18					No measurement made due to inclement weather.
	19	40.0	102	3.0	8	
	25	41.0	104	3.0	8	
Apr	1	41.0	104	5.0	13	
	9	42.0	107	5.0	13	
	15	42.0	107	8.0	20	
	22	42.0	107	8.0	20	
	29	42.0	107	7.0	18	Maximum ice thickness observed from 9 to 29

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						April.
May	6	41.0	104	6.0	15	
	14	39.0	99	4.5	11	
	20					Measurement delayed due to inclement weather.
	21	38.5	98	3.0	8	
	27	38.5	98	1.0	3	
Jun	3	37.0	94			
	11	35.0	89			A lead about 3/4 mi. north is about 50 yd long and 20 yd wide.
	17	34.0	86			Last ice measurement for the season. No snow on the ice since 3 June. Surface smooth, few ice cracks since 3 Dec 1976. Lead has increased in size to 150 yd long and 100 yd wide.
	24					Bay ice is now too dangerous to walk on.
Koartak (B) (QUE):		**Measurements made in the middle of Unnamed Lake, located 1/2 mi. SSW of the station.**				
1976						
Nov	12	11.0	28	2.0	5	First ice measurement for the season.
	19	14.0	36	1.0	3	
	26	15.5	39	1.0	3	No leads on the lake ice.
Dec	3	19.0	48	3.0	8	
	11					Measurement delayed due to cold and drifting snow.
	12	24.0	61	3.0	8	
	17	28.5	72	3.0	8	
	24	31.5	80	3.0	8	
	31	34.0	86	1.0	3	
1977						
Jan	7	35.0	89	1.0	3	
	14	37.0	94	2.0	5	
	21	39.0	99	3.0	8	
	29	39.0	99	7.5	19	
Feb	11					No measurements on 4 and 11 Feb, observer in Montreal.
	18	44.0	112	7.5	19	
	25	48.0	122	6.0	15	
Mar	4	45.5	116	2.0	5	
	12	47.0	119	3.0	8	
	18					Measurement delayed due to inclement weather.
	19	47.0	119	5.0	13	
	25	48.0	122	5.0	13	
Apr	1	47.0	119	4.0	10	
	9	48.0	122	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	15	53.0	135	4.0	10	
	22	53.5	136	4.0	10	Maximum ice thickness observed.
	29	53.0	135	4.0	10	
May	31					Observations for May are missing.
Jun	3	49.0	124	1.0	3	
	11	46.0	117			
	17	45.0	114			Last ice measurement for the season. No snow on the ice on 11 and 17 June. Surface smooth, few to no ice cracks on the ice since 12 Nov 1976. Lots of water around the edge of the lake.
	24					Lake ice too dangerous to walk on.
Kobuk (Alaska):		**Measurements made on Kobuk River in front of the village.**				
1976						
Oct	10					Ice started running on the river.
	13					Ice stopped running, river now frozen over.
	16	7.0	18			First ice measurement for the season. No snow on the ice. Scattered open water holes.
	23	7.0	18	3.5	9	
	30	7.0	18	3.5	9	No ice cracks observed in Oct.
Nov	6	14.0	36	3.0	8	
	13	11.0	28	4.0	10	Rain recorded overnight, 1 in. water under the snow. Water rose up through the drilled hole.
	20	12.5	32	1.0	3	
	27	13.0	33	1.0	3	
Dec	4	18.5	47	4.0	10	
	11	22.5	57	2.0	5	
	18	22.0	56	2.0	5	
	25	25.0	64	2.0	5	
1977						
Jan	1	26.0	66	2.0	5	
	8	24.0	61	3.0	8	
	15	25.0	64	2.0	5	
	22	26.0	66	2.0	5	
	29	29.0	74	3.0	8	
Feb	5	30.5	77	3.0	8	
	12	32.0	81	2.0	5	
	19	33.0	84	2.0	5	
	26	33.5	85	2.0	5	
Mar	5	35.0	89	2.5	6	
	12	35.5	90	4.0	10	
	19	36.0	91	4.0	10	
	26	38.0	97	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	2	38.0	97	4.0	10	
	9	38.5	98	4.0	10	
	16	39.0	99	5.0	13	
	23	39.0	99	2.0	5	
	30	39.0	99	2.0	5	Ice cracks unknown since 6 Nov 1976 due to snow cover.
May	7	39.0	99			Maximum ice thickness observed since 16 Apr. Puddles of water forming on the ice.
	14	36.0	91			Last ice thickness measurement for the season. No snow on the ice, and no ice cracks observed on 7 and 14 May. Water running on both shores. Ice has lifted, and has become unsafe for snow machine traffic.
	16					River ice now unsafe to walk on.
	18					River ice has moved.
	20					Boating on the river began.
	23					River is now free of ice.
Kotzebue (Alaska):		**Measurements made on Kotzebue Sound, 50 yds from the beach.**				
1976						
Nov	13	17.0	43	3.0	8	First ice thickness measurement for the season.
	20	18.0	46	4.0	10	
	27	19.0	48	5.0	13	Surface smooth, no ice cracks observed during Nov.
Dec	4	21.0	53	5.0	13	
	11	22.0	56	6.0	15	
	18	24.0	61	6.5	17	
	25	26.0	66	6.5	17	
1977						
Jan	1	27.0	69	6.5	17	
	8	28.0	71	7.0	18	
	15	29.0	74	7.0	18	
	22	30.0	76	7.0	18	
	29	30.5	77	7.5	19	
Feb	5	31.0	79	7.0	18	
	12	32.0	81	8.0	20	
	19	33.0	84	8.0	20	
	26	33.5	85	8.5	22	
Mar	5	34.0	86	9.0	23	
	12	35.0	89	9.5	24	
	19	37.0	94	10.0	25	
	26	38.0	97	10.0	25	
Apr	2	40.0	102	10.0	25	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	9	40.5	103	10.0	25	
	16	41.5	105	10.5	27	
	23	42.0	107	11.0	28	
	30	43.0	109	12.0	30	
May	6	44.0	112	8.0	20	
	13	44.5	113	3.0	8	Maximum ice thickness observed. Last ice thickness measurement for the season. Surface conditions, including ice cracks and leads unknown due to cover of snow.
	28					Ice on the Sound is now unsafe for snowmobiles.
	29					Ice movement observed.
	31					Ice now unsafe to walk on.
Jun	13					Boating on the Sound has begun.
	21					Kotzebue Sound is now free of ice.
Mankomen Lake (Alaska):		**Measurements made on Mankomen Lake.**				
1976						
Oct	24					Ice formed from shore-to-shore on this date.
	30	3.5	9	1.0	3	Surface smooth with some snow drifts.
Nov	6	8.0	20			No snow on the ice.
	13	10.0	25	4.0	10	
	20	10.5	27	2.0	5	
	27	10.5	27	4.0	10	Surface lightly ridged since 6 Nov. Small snow drifts during Nov.
Dec	4	15.0	38			
	11	21.0	53			No snow on the ice during 4 and 11 Dec.
	18	23.5	60	1.0	3	Numerous ice cracks since 30 Oct.
	25	25.0	64	1.0	3	Surface moderately ridged during Dec.
1977						
Jan	1	26.0	66	4.0	10	
	8	26.5	67	6.0	15	
	15	27.5	70	3.0	8	Surface lightly ridged since 1 Jan, and few ice cracks observed since 25 Dec 1976.
	22	28.0	71	4.0	10	No ice cracks observed.
	29	29.0	74	22.0	56	Major new snowfall
Feb	5	31.0	79	18.0	46	
	12	31.0	79	10.0	25	
	19	31.5	80	9.0	23	
	26	32.0	81	8.0	20	Surface lightly ridged during Feb.
Mar	5	34.0	86	10.0	25	
	12	36.0	91	10.0	25	Ice crack conditions unknown due to snow cover.
	19	36.0	91	21.0	53	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	36.0	91	21.0	53	Water overflow on the surface recorded on 19 and 26 Mar.
Apr	2	36.0	91	20.0	51	
	9	36.0	91	20.0	51	Ice crack conditions unknown.
	16	36.0	91	16.0	41	Maximum ice thickness observed since 12 Mar.
	23	35.0	89	13.0	33	
	24					Christochina River ice now unsafe for snowmobiles.
	27					Christochina River ice now unsafe to walk on.
	30	35.0	89	9.0	23	Ice moved on the Christochina River.
May	7	34.5	88	6.0	15	
	14	33.0	84			Overflow on the Mankomen Lake ice on 7 and 14 May.
	21	32.0	81			
	25					Mankomen Lake ice now unsafe for snow machines.
	28	29.0	74			Last ice thickness measurement for the season. No snow on the ice.
Jun	6					Lake ice unsafe to walk on.
	9					Lake ice movement.
	13					Mankomen Lake free of ice.
Matagami (QUE):		**Measurements made on Bell River facing the Fecteau Air Services.**				
1976						
Dec	3	6.0	15	4.0	10	First ice thickness measurement for the season.
	10	6.5	17	5.0	13	
	17	8.0	20	11.5	29	Surface smooth since 3 Dec.
	24	12.0	30	8.5	22	Surface lightly ridged.
	31	12.0	30	8.0	20	
1977						
Jan	7	13.0	33	18.0	46	
	14	17.0	43	9.0	23	
	21	20.0	51	8.0	20	
	28	21.5	55	5.0	13	
Feb	4	21.0	53	8.5	22	
	11	22.0	56	7.5	19	
	17	22.0	56	13.5	34	
	25	23.0	58	18.0	46	
Mar	4	20.0	51	20.0	51	
	11	22.0	56	8.0	20	
	17	24.0	61	0.5	1	
	25	28.0	71	0.5	1	
Apr	1	30.0	76			Trace of snow on the ice.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	8	30.0	76	1.0	3	Last ice thickness measurement for the season. Surface smooth since 31 Dec 1976. Few to no ice cracks observed since 10 Dec 1976. Maximum ice observed on 1 and 8 April.
	15					Unable to make an ice measurement due to excessive ice melt.
McGrath (Alaska):		**Measurements made on the Kuskokwim River.**				
1976						
Oct	7					Ice first formed on this date.
	14					Ice ran alternately from heavy to light during the previous two weeks and formed and froze over, but later the river water rose and ice moved out again.
	21					River froze over from shore to shore and remained frozen.
	27					Ice extending from shore to shore.
Dec	31					No ice measurements received during Nov or Dec 1976.
1977						
Jan	22	27.0	69	8.0	20	First ice measurements for the season.
	29	26.0	66	7.0	18	There are open leads below the Takotna River and open holes upstream, and ice cracks along the shoreline. Ice is very thin and water very low, ice is only 2 ft thick in some places. Winter has been warm and mild.
Feb	5	25.0	64	8.0	20	
	12	26.0	66	10.0	25	
	19	28.0	71	12.0	30	
	26	28.0	71	12.0	30	Open holes and leads reported downstream.
Mar	5	28.0	71	12.0	30	
	12	29.0	74	15.0	38	Maximum ice thickness observed.
	19	27.0	69	20.0	51	
	26	28.0	71	28.0	71	Leads and open holes reported above and below the ice measuring site. Ice is very thin in places at the mouth of the Takotna.
Apr	2	27.0	69	28.0	71	
	9	27.0	69	27.0	69	
	16	26.0	66	25.0	64	
	22					Ice starting to move.
	23	25.0	64	20.0	51	
	27					River water rose through the drill hole and has overflowed on the ice by this date.
	30	24.0	61	19.0	48	Last ice thickness measurement for the season.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Short leads reported downstream below the mouth of the Takotna River. Holes and leads reported above McGrath. Surface lightly ridged, and numerous ice cracks observed since 22 Jan. Flowing river ice is unsafe for snowmobiles (or jeeps) on the given dates: Innoka River on 22 Apr; Kuskokwin on 25 Apr; Nixon Fork on 26 Apr; and Takotna on 27 Apr.
May	1					River water rising slowly, as overflow is 15 in. over the measuring site. Yellow spots appearing on the surface. Innoka River is unsafe to walk on.
	3					Nixon Fork ice unsafe to walk on.
	4					Kuskokwim River ice unsafe to walk on, and Innoko River ice has moved.
	5					Tokotna ice unsafe to walk on.
	7					Kuskokwim and Nixon Fork ice has moved.
	8					Takotna River ice moved.
	10					Boating on the Innoka began.
	11					Boating on the Kuskokwim and Nixon Fork Rivers began.
	12					Boating on the Takotna began, and the Innoka and Kuskokwim Rivers are free of ice.
	13					The Nixon Fork and Takotna Rivers are now free of ice.
Moosonee (ONT):		**Measurements made on the Moose River, 100 yd east of Ministry of Transport compound.**				
1976						
Nov	28					Piles of ice caught on sandbars before the entire river froze, standing 1 to 2 m in height. Ice formed progressively downstream, covering the measuring site on this date. Snowmobiles have been on the ice regularly before this date.
Dec	3	4.0	10	1.0	3	First ice thickness measurement for the season.
	10	8.5	22	2.0	5	
	17	13.5	34	4.5	11	
	24	15.0	38	7.5	19	
	31	17.0	43	6.5	17	
1977						
Jan	7	18.0	46	6.0	15	
	14	21.0	53	4.5	11	
	21	23.5	60	5.5	14	
	28	24.0	61	6.5	17	Slight tidal flooding along the shoreline.
Feb	4	22.0	56	8.5	22	
	11	24.0	61	6.5	17	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	18	26.0	66	10.0	25	
	25	27.5	70	9.0	23	Few ice cracks since 3 Dec 1976.
Mar	4	24.5	62	10.0	25	No ice cracks observed.
	11	26.0	66	9.5	24	
	18	30.5	77	1.0	3	
	25	28.0	71	1.0	3	
Apr	1	31.0	79	1.0	3	
	8	36.0	91	1.0	3	Maximum ice thickness observed. Top 4 in. of ice is the result of tidal flooding.
	15	31.0	79	0.5	1	Last ice thickness measurement for the season. Surface lightly ridged since 3 Dec 1976, and few ice cracks observed since 11 Feb. Extensive tidal flooding observed.
	22					10 m strip of water all along the shore. Measurements terminated due to ice breakup.
Mould Bay (NWT):		**Measurements made on Mould Bay 3/4 to 1 mi. west from the west end of the landing strip.**				
1976						
Oct	1	9.0	23			First ice thickness measurement for the season. No snow on the ice.
	8	17.0	43	1.0	3	Surface smooth on 1 and 8 Oct.
	15	20.0	51	3.0	8	
	22	21.0	53	3.0	8	
	29	24.0	61	4.0	10	
Nov	5	26.5	67	5.0	13	Surface lightly ridged since 15 Oct.
	12	29.0	74	8.0	20	
	19	30.0	76	9.5	24	
	26	34.0	86	9.0	23	
Dec	3	34.0	86	9.0	23	
	10	36.0	91	10.0	25	
	17	38.0	97	12.5	32	
	24	41.0	104	13.5	34	
	31	43.0	109	18.0	46	
1977						
Jan	7	44.0	112	11.0	28	
	14	46.0	117	14.0	36	
	21	48.0	122	14.0	36	
	28	49.0	124	18.0	46	
Feb	4	50.0	127	20.0	51	
	11	52.0	132	20.0	51	
	18	55.0	140	20.0	51	
	25	56.0	142	20.0	51	
Mar	4	57.0	145	20.5	52	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11	59.0	150	15.0	38	
	19	60.0	152	14.0	36	
	25	63.0	160	20.0	51	
Apr	1	65.0	165	24.0	61	
	8	63.0	160	20.0	51	
	15	66.0	168	21.5	55	
	22	67.0	170	23.0	58	
	29	67.0	170	25.0	64	
May	6	66.0	168	26.0	66	
	13	71.5	182	24.0	61	
	20	72.0	183	22.0	56	
	27	71.0	180	27.0	69	
Jun	3	72.0	183	22.0	56	
	10	75.0	191	18.0	46	Maximum ice thickness observed. Last ice thickness measurement for the season. Surface smooth and few to no ice cracks since 1 Oct 1976.
	24					Remarks given for 17 and 24 June were not legible (Authors).

Natashquan (QUE): Measurements made on the Little Natashquan River at the interior side and 15 m east of the town bridge that crosses the river.

1976						
Dec	5					Bay became frozen on this date.
	8					Ice cracks refroze on this date.
	10	12.0	30			First ice thickness measurement for the season. No snow on the ice.
	17	12.0	30	2.5	6	
	24	11.5	29	0.5	1	
	31	12.5	32	3.0	8	Some leads observed.
1977						
Jan	8	7.0	18	1.5	4	
	14	10.0	25	1.0	3	
	21	16.0	41	1.5	4	
	28	18.0	46	1.0	3	Total ice cover was not consistent during Jan. Lead reported to be 3.2 km wide and 396 m long.
Feb	4	21.0	53	2.0	5	
	11	23.0	58	1.5	4	Maximum ice thickness observed (see Feb 25).
	18	22.5	57	5.0	13	Few ice cracks observed since 10 Dec 1976.
	25	26.0	66	8.0	20	Ice thickness as reported but appears questionable (Authors).
Mar	4	23.0	58	9.0	23	
	11	20.0	51	5.5	14	
	18	18.0	46	2.0	5	Few ice cracks observed since 10 Dec 1976.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	18.0	46	1.0	3	Last ice thickness measurement for the season. Many ice cracks around the measuring site.
	31					Impossible to make further measurements because the ice sheet has broken into pieces and conditions are unsafe.
Nicolet (A) (QUE):		**Measurements made on Lake St. Peter of St. Lawrence Seaway at BTY-1. 46 deg 11'45" N lat. and 72 deg 39'54" W long.**				
1976						
Dec	10	9.0	23	1.5	4	First ice thickness measurement for the season. Surface smooth, some ice cracks observed.
	17	15.0	38			2-in. soft snow cover, and 0.5 in. granular, some ice cracks observed.
	24	17.0	43	6.0	15	Not possible to see any ice cracks. Snow surface smooth.
	31	15.0	38	6.0	15	Some snow ice noted.
1977						
Jan	7	17.0	43	5.0	13	4 in. of snow ice observed. Ice sheet is opaque.
	14	18.0	46	5.0	13	1 in. of water and 1 in. snow ice observed.
	21	21.0	53	12.0	30	1.5 in. snow ice observed.
	28	21.0	53	7.0	18	Surface smooth.
Feb	4	23.5	60	11.0	28	Surface smooth.
	11	26.0	66	9.0	23	Maximum ice thickness observed.
	18	23.0	58	13.5	34	
Mar	11	24.5	62	5.0	13	20 cm of snow ice and 25 cm of water on the surface. Last ice thickness measurement for the season. Ice cracks not visible since 24 Dec 1976.
	25					Unsafe conditions, observations ended for the season.
Nicolet (B) (QUE):		**Measurements made on Lake St. Peter of St. Lawrence Seaway at BTY-5. 46 deg 13'01" N lat. and 72 deg 42'00" W long.**				
1976						
Dec	10	11.0	28	1.5	4	First ice thickness measurement for the season. Surface smooth, some ice cracks observed.
	17	12.0	30			2 in. soft snow cover and 0.5 in. granular, some ice cracks observed.
	24	14.0	36	6.0	15	Snow surface smooth. Not possible to see any ice cracks.
	31	12.5	32	4.0	10	Some snow ice noted.
1977						
Jan	7	15.0	38	5.0	13	5 in. snow ice observed. Ice sheet is opaque.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	14	21.0	53	5.0	13	Surface smooth.
	21	22.0	56	12.0	30	4-in. of snow ice is observed.
	28					No measurements made due to a storm and poor visibility.
Feb	4	23.0	58	11.0	28	Granular ice observed on the surface.
	11	25.0	64	9.0	23	Maximum ice thickness observed.
	18	23.5	60	12.5	32	
Mar	11	23.0	58	1.5	4	6 in. of snow ice observed. Ice cracks not visible since 24 Dec 1976. Surface smooth since 11 Feb.
	25	21.5	55			Last ice thickness measurement for the season. Surface moderately ridged and some ice cracks observed. Ice no longer safe.
Nicolet (C) (QUE):		**Measurements made on Lake St. Peter of St. Lawrence Seaway at OP-6. 46 deg 10'54" N lat. and 72 deg 46'09" W long.**				
1976						
Dec	10	9.0	23	3.0	8	First ice thickness measurement for the season. Surface smooth, ice sheet is opaque. Some ice cracks observed.
	17	10.0	25			2 in. soft snow cover and 0.5 in. granular. Some ice cracks noted.
	24	13.0	33	6.0	15	
	31	16.0	41	3.0	8	Surface smooth on 24 and 31 Dec.
1977						
Jan	7	17.0	43	5.0	13	Ice sheet is opaque, and granular ice observed.
	14	19.0	48	4.5	11	1 in. of water and 1 in. snow ice observed.
	21	18.0	46	8.0	20	3.5 in. snow ice observed. Surface smooth.
	28					No measurements made due to a storm and poor visibility.
Feb	4	20.0	51	9.0	23	2 in. of snow ice observed.
	11	27.0	69	6.0	15	Surface smooth. Maximum ice thickness observed.
	18	21.5	55	12.0	30	Last ice thickness measurement for the season.
	21					18 in. of water on the surface. Unsafe ice conditions, observations ended for the season.
Nitchequon (QUE):		**Measurements made on Lake Nichican, 200 ft south of the town dock.**				
1976						
Nov	5	7.0	18			First ice thickness measurement for the season. Trace of snow on the ice. Numerous ice cracks noted.
	12	12.0	30	1.0	3	
	19	12.0	30	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	10.0	25	10.0	25	3 cm of slush on the ice.
Dec	3	14.0	36	10.0	25	
	10	15.0	38	6.0	15	
	17	16.0	41	6.0	15	
	24	18.5	47	9.0	23	3 cm of slush on the ice.
	31	21.0	53	12.0	30	No leads observed.
1977						
Jan	7	20.0	51	10.0	25	4 cm of slush on the ice.
	14	26.0	66	9.0	23	2 cm of slush on the ice.
	21	24.0	61	13.0	33	No slush on the ice.
	28	27.0	69	12.0	30	No ice cracks observed since 12 Nov 1976.
Feb	4	24.0	61	14.0	36	
	11	27.0	69	15.0	38	
	18	27.5	70	15.0	38	3 cm slush on the ice.
	25	33.0	84	11.0	28	5 cm slush on the ice.
Mar	4	36.0	91	12.0	30	5 cm slush on the ice. Two layers of ice observed, separated by 4 cm of water.
	11	40.0	102	12.0	30	
	18	41.0	104	8.0	20	
	25	41.0	104	12.0	30	Two layers of ice, separated by 10 cm of water since 11 March.
Apr	1	42.0	107	8.0	20	8 cm of water between two ice layers.
	8	40.0	102	11.0	28	10 cm of slush between snow and ice.
	15	42.0	107	11.0	28	5 cm of water between two ice layers
	22	40.0	102	6.0	15	Surface consists of 15 cm of very soft snow over 30 cm of slush, the lake is becoming "impracticable."
	29	43.0	109	1.0	3	Maximum ice thickness observed. Last ice thickness measurement for the season. Two ice layers separated by 8 cm of water on this date. Surface smooth since 5 Nov 1976 and few ice cracks observed since 4 Feb.
Norman Wells (NWT):Measurements made on the Mackenzie River, 200 yd from water pumphouse, bearing 220 deg.						
1976						
Nov	26	19.0	48	3.0	8	First ice thickness measurement for the season.
Dec	3	20.0	51	4.0	10	
	10	22.0	56	4.0	10	
	17	22.0	56	4.0	10	
	24	23.0	58	4.0	10	
1977						
Jan	7	23.5	60	4.5	11	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	14	28.5	72	6.0	15	
	21	32.0	81	11.0	28	
	28	33.5	85	14.0	36	
Feb	4					No ice measurement received.
	11	40.0	102	10.5	27	
	18	52.0	132	9.0	23	
	25	63.0	160	9.0	23	
Mar	4	61.0	155	8.0	20	
	11	62.5	159	8.0	20	
	18					No measurement made, no vehicle available.
	25	62.0	157	10.5	27	
Apr	1	61.5	156	9.0	23	
	8	63.5	161	9.0	23	
	15	62.0	157	8.5	22	
	22	65.5	166	8.0	20	Maximum ice thickness observed. Surface lightly ridged, and few to no ice cracks observed since 26 Nov 1976. Last ice thickness measurement for the season. No further observation made due to excessive water on the ice.
Northway (Alaska):		**Measurements made on the Chisana River, below the town bridge.**				
1976						
Nov	14	8.0	20	0.5	1	First ice thickness measurement for the season.
	20	10.0	25	0.5	1	
	27	12.0	30	0.5	1	
Dec	4	21.0	53	5.0	13	
	11	24.0	61	6.0	15	Maximum ice thickness observed. Surface smooth, no ice cracks observed since 14 Nov.
	25					No ice measurements made on 18 or 25 Dec due to melting ice making conditions unsafe to walk on.
1977						
Jan	2	7.5	19	6.0	15	
	9	8.0	20	6.0	15	
	16	8.0	20	8.0	20	
	23	8.5	22	8.0	20	
	30	8.0	20	8.0	20	Surface rough during all of Jan.
Feb	6	7.0	18	6.5	17	
	13	7.0	18	6.5	17	
	20	6.0	15	6.5	17	
	27	6.0	15	6.5	17	Surface smooth during all of Feb.
Mar	6	6.5	17	6.0	15	
	13	6.5	17	6.0	15	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	20	6.5	17	6.0	15	
	27	6.0	15	6.0	15	Last ice thickness measurement for the season. Few ice cracks observed since 2 Jan. No further observations received (Authors). Maximum ice occurred earlier (see Dec 1976).
Norway House (Forestry) (MAN):		**Measurements made on the Nelson River at east side of Forestry Island, adjacent to the dock.**				
1976						
Nov	8					Ice formed during the beginning of Nov but high winds broke it up.
	9	4.0	10			Complete ice coverage occurred on this date. First ice thickness measurement for the season.
	12	6.0	15			No snow on the ice on 9 and 12 Nov.
	19	6.0	15	6.0	15	Few ice cracks observed since 9 Nov.
	26	9.0	23			Snow data missing on 9, 12 and 27 November.
Dec	3	12.0	30	7.0	18	
	11	14.0	36	7.0	18	Surface smooth since 9 Nov.
	17	14.0	36	8.0	20	
	24	15.0	38	10.0	25	
	31	20.0	51	12.0	30	19 in. of fluffy snow on the island. Snow surface slightly ridged due to wind action.
1977						
Jan	7	21.0	53	12.0	30	Drifted snow surface.
	14	21.0	53	12.5	32	
	21	24.0	61	13.0	33	
	28	28.0	71	13.0	33	High winds have blown a smooth and crusty snow surface on the lake. A mild spell also has created areas of slush. Maximum ice thickness observed.
Feb	11	24.0	61	8.0	20	
	18	25.0	64	11.0	28	
	25	25.0	64	11.0	28	Mild air temperatures have reduced any small ridges, the surface is now smooth and the snow soft.
Mar	8	25.0	64	7.0	18	
	11	25.0	64	5.0	13	
	18	25.0	64	8.0	20	
	25	24.0	61	8.0	20	Heavy snowfall for several days in the middle of the month added inches to the ice measurement area.
Apr	2	24.0	61	5.0	13	
	9	24.0	61	3.0	8	6 to 8 in. slush on the surface.
	15	24.0	61			Last ice thickness measurement for the season. Up to 12 in. slush on the surface. No snow on the ice.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						No ice cracks observed since 26 Nov 1976.
	22					Some open water, ice is candled. Favorable Spring air temperatrues and little snow resulted in a quick and "silent" breakup.
Pond Inlet (NWT):		**Measurements made in the Inlet about 600 to 800 m offshore at right angles to the Roman Catholic church.**				
1976						
Oct	15	8.0	20	1.0	3	First ice thickness measurement for the season.
	21	12.5	32	1.0	3	
	29	12.5	32	2.0	5	
	31	13.0	33	2.0	5	
Nov	5	16.5	42	4.0	10	Measurement on this date was made at about 400 ft offshore. A new snowfall recorded.
	12	16.5	42	3.5	9	Starting on this date the ice measurement will now be made 600 m offshore just west of the Roman Catholic church.
	19	20.0	51	4.0	10	
	26	24.5	62	2.0	5	Snow cover moderately packed.
Dec	3	26.5	67	3.0	8	
	10	31.0	79	3.0	8	
	17	32.0	81	3.5	9	
	24	36.0	91	4.0	10	Snow over on 12 and 19 Nov, and since 3 Dec is lightly packed.
	31	36.5	93	7.0	18	
1977						
Jan	7	42.5	108	6.5	17	Snow cover lightly packed.
	14	43.5	110	8.5	22	
	21	44.0	112	8.0	20	
	28	45.0	114	10.0	25	
Feb	4	47.0	119	9.0	23	
	11	47.0	119	11.0	28	
	25					No ice measurements on 18 and 25 Feb, the auger became stuck in the ice. Observer states that no further measurements were made this winter.
Port Alsworth (Alaska):		**Measurements made on Hardenbourg Bay of Lake Clark.**				
1976						
Oct	26					Bay froze over on this date.
	30	4.5	11	2.0	5	First ice thickness measurement for the season. Snow cover is light and fluffy. Few ice cracks

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						observed.
Nov	6	3.0	8			
	13	2.0	5			Bay is 50% open.
	20	2.0	5			Ice is on the E and SE half of the bay.
	27	1.0	3			Bay is now 75% open, ice is on the east side. Observer notes that it is very unusual to have the bay open at this time of year. Surface smooth since 30 Oct. No snow on the ice in Nov.
Dec	4	3.0	8			4-in. snow drifts observed.
	11	3.0	8			2 in. of ice-water overflow on the ice.
	18	4.0	10			
	25	3.0	8			25% of the bay in from the channel is open. Warm air temperatures and wind keep "gnawing" at it. Surface rough during Dec. No ice cracks observed since 6 Nov.
1977						
Jan	1	4.0	10			Bay is 2/3 ice covered.
	8	4.0	10			Bay is now 1/3 ice covered.
	15	1.5	4			Bay is still only 1/3 ice covered.
	22	0.5	1			Bay is now 1/4 ice covered. Surface smooth, numerous ice cracks since 1 Jan.
	29					Ice is now all gone.
Feb	12					Skim of ice observed.
	26	2.0	5			Observer notes that this is the warmest Feb ever seen. Grass, dandelions, rhubarb are growing, and pussy-willows are out plus houseflies and mosquitos.
Mar	5	5.0	13			
	12	8.0	20	4.0	10	
	19	9.0	23	2.0	5	Snow drifts depths vary up to 10 in. deep.
	26	12.0	30	2.0	5	Snow drifts vary up to 12 in. deep, and semi-packed.
Apr	2	12.0	30	2.0	5	Surface smooth, few ice cracks since 26 Feb.
	9	11.0	28			
	16	13.0	33			Maximum ice thickness observed.
	23	8.0	20			Open leads near the narrows and along the SW shore.
	30	3.0	8			Last ice thickness measurements for the season. Bay is 1/3 open and usable for floatplanes with caution. Ice is needled, surface rough and numerous ice cracks since 9 Apr. Lake Clark remained open all winter.

Poste de la Baleine (QUE): **Measurements made on Great Whale River facing the water pump at 1 mile upstream from its mouth, about 400 ft from north bank.**

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
1976						
Dec	15	16.0	41	4.0	10	First ice thickness measurement for the season. Ice judged unsafe prior to 15 Dec.
	23	21.0	53	4.5	11	No open channels on the river. Some channels reported on Hudson Bay.
1977						
Jan	1	27.0	69	8.0	20	
	8	25.0	64	5.0	13	
	16	32.0	81	6.0	15	
	23	28.5	72	7.5	19	
Feb	1	33.0	84	20.0	51	
	8	40.0	102	22.0	56	
	15	44.0	112	24.0	61	
	23	37.0	94	22.0	56	
Mar	1	38.0	97	12.0	30	
	8	38.0	97	20.0	51	
	15	40.0	102	14.0	36	
	25	44.0	112	9.5	24	
Apr	1	43.0	109	4.0	10	
	8	43.0	109	4.5	11	Ice sheet resembles a consistency of light powder.
	15	46.0	117	3.0	8	Maximum ice thickness observed. Last ice measurement for the season. Small ponds of water are beginning to form on the river ice. Surface lightly ridged and some ice cracks since 15 Dec 1976.
	23					Measurements ended due to large accumulations of water on the ice.
Primrose Lake (ALTA):		**Measurements made in the Southwest Bay section of the lake.**				
1976						
Nov	18					Main portion of the lake frozen on this date.
	27					Southwest Bay now frozen.
Dec	9	11.0	28	0.5	1	
	16	13.0	33	1.0	3	
	22	15.0	38	1.5	4	
1977						
Jan	6	20.0	51	4.0	10	
	12	21.5	55	4.0	10	
	19	22.0	56	4.0	10	
	26	24.0	61	3.0	8	
Feb	2	26.0	66	4.0	10	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11	25.5	65	4.0	10	
	18	28.0	71	3.0	8	Few to no ice cracks observed since 9 Dec 1976.
	25	28.0	71	3.0	8	
Mar	4	28.0	71	3.0	8	Original record not fully legible, ice thickness may be 61 cm (Authors).
	12					No measurement made on this date.
	21	29.0	74	3.5	9	
	25	26.0	66	8.0	20	
	31	29.0	74	4.0	10	
Apr	7	30.0	76	3.0	8	Maximum ice thickness observed. Surface smooth since 9 Dec 1976.
	15	23.5	60			Open leads 3 m from shore.
	21	19.5	50			Open water along the shore 3 to 5 m wide. Surface rough on 15 and 21 April.
	29	8.0	20			Last ice thickness measurement for the season. Surface smooth, few to numerous ice cracks since 25 Feb. Open water along shore edge 20 m wide.
Rampart II (Alaska):		**Measurements made on the Yukon River, 100 yd offshore from the magistrates house.**				
1976						
Nov	3					Freeze-up recorded on this date.
	6	2.0	5			First ice thickness measurement for the season.
	13	3.5	9			No snow on the ice on 6 and 13 Nov.
	20	5.0	13	2.0	5	
	27	8.5	22	5.0	13	Average snow depth during Nov varied from 1 to 8 in. and density was "hard." No leads or ice cracks observed within a mile distance.
Dec	4	9.5	24	6.0	15	
	11	11.0	28	7.0	18	
	18	12.0	30	8.5	22	
	25	14.0	36	8.5	22	
1977						
Jan	1	16.5	42	3.5	9	
	8	18.5	47	3.5	9	
	15	21.5	55	3.5	9	
	22	22.5	57	4.0	10	
	29	25.0	64	5.0	13	
Feb	5	25.5	65	5.5	14	
	12	26.0	66	5.5	14	
	19	27.0	69	6.0	15	
	26	27.5	70	6.0	15	
Mar	5	28.0	71	6.5	17	
	12	30.5	77	6.5	17	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	19	31.5	80	6.5	17	
	26	33.0	84	6.5	17	
Apr	2	31.0	79	10.0	25	
	9	33.5	85	10.0	25	
	16	37.0	94	12.0	30	Maximum ice thickness observed.
	23	36.5	93	6.0	15	Snow cover has been "hard" since 6 Nov 1976.
	30	35.5	90			Last ice thickness measurement for the season. Surface smooth, and no ice cracks observed since 6 Nov 1976.
May	6					River ice unsafe for snow machines.
	11					River ice unsafe to walk on.
	12					River ice movement noted.
	20					Boating on the river began.
	23					River is now free of ice.
Resolute (NWT):		**Measurements made on Resolute Bay, 100 yd SSE of tidal shack and toward the center of the bay.**				
1976						
Oct	15	10.0	25	4.0	10	First ice thickness measurement for the season. Surface lightly ridged.
	22					Ice measurement not made due to high tide caused 5 in. of water and slush with numerous ice cracks near shore.
	29	15.0	38	4.0	10	
Nov	5	23.0	58	6.0	15	
	12	24.0	61	6.0	15	
	19	26.0	66	6.0	15	
	26	29.5	75	7.0	18	
Dec	3	31.0	79	8.0	20	
	10	32.0	81	9.0	23	
	17	34.0	86	8.5	22	
	24	36.5	93	16.0	41	
	31	39.0	99	12.0	30	
1977						
Jan	7	41.0	104	13.0	33	
	14	41.5	105	18.0	46	
	21	43.0	109	18.0	46	
	28	45.0	114	20.0	51	
Feb	4	47.0	119	19.0	48	
	11	47.0	119	19.0	48	
	18	48.0	122	22.0	56	
	28	47.0	119	21.0	53	
Mar	4	51.0	130	24.0	61	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	11	50.5	128	22.0	56	
	18	54.0	137	23.0	58	
	25	55.0	140	24.0	61	
Apr	1	55.0	140	30.0	76	
	8	62.0	157	24.5	62	
	15					No ice measurement made due to a 5-day severe blizzard. Roads to the bay not passable until 21 April.
May	6	60.0	152	23.0	58	
	13	65.0	165	24.0	61	
	20	61.0	155	30.0	76	
	29	63.0	160	26.0	66	
Jun	3	64.0	163	30.0	76	
	10	61.0	155	28.0	71	Surface smooth, few ice cracks since 29 Oct 1976.
	17	72.0	183	3.0	8	Maximum ice thickness observed. Sudden accumulation may be snow ice formation (Authors).
	24	68.0	173	1.0	3	Surface ridged, numerous ice cracks observed on 17 and 14 June.
Jul	1	56.0	142			
	8	46.0	117			
	10					Large lead in Barrow Strait.
	11					Shore lead developing at the mouths of runoff streams.
	15	39.5	100			
	22	28.0	71			Large area of open water in Barrow Strait. Width of shore-fast ice in Resolute Bay is 1 mi. Last ice thickness measurement of the season. Surface lightly rafted, few ice cracks observed since 1 July.
	23					Shore leads expanding to 1/4 mi. in length.
	26					Ice broke up and moved out of the bay.
Russian Mission (Alaska):				**Measurements made on the Yukon River in front of the village, 30 yd offshore.**		
1977						
Mar	31					No ice measurement made prior to this date.
Apr	3	36.0	91	21.0	53	First ice thickness measurement received for the season.
	9	46.0	117	22.0	56	Maximum ice thickness observed.
	16	43.0	109	21.0	53	
	23	39.0	99	19.0	48	
	30	39.0	99	15.0	38	Water observed on the ice sheet.
May	7	32.0	81	12.0	30	Surface smooth, no ice cracks observed since 3

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						April. Water remained on the ice.
	14	30.0	76	7.0	18	Ice crack 2 in. wide and 25 ft ft offshore formed lengthwise on the river.
	16					River unsafe for snowmobile traffic.
	18					River ice unsafe to walk on.
	20					Date of first ice movement.
	27					Date of last ice, boats now on the river.
Sachs Harbour (NWT):		**Measurements made on Sachs Harbour of Amundsen Gulf, 50 yd from shore, south of the R.C.M.P. office.**				
1976						
Dec	3	24.5	62	1.5	4	First ice thickness measurement for the season.
	10	31.0	79	1.0	3	
	17	36.0	91	2.0	5	
	24	40.0	102	1.5	4	
	31	44.0	112	2.0	5	Few ice cracks observed during Dec.
1977						
Jan	7	47.0	119	5.5	14	
	14	44.5	113	2.0	5	Surface smooth, no ice cracks observed on 7 and 14 Jan.
	15					Numerous leads noted south of the island.
	21	49.0	124	1.0	3	
	28	49.5	126	2.5	6	
Feb	5	53.0	135	2.0	5	
	11	56.5	144	3.0	8	Surface smooth since 7 December 1976.
	18	57.0	145	4.0	10	
	26	58.0	147	4.0	10	Surface lightly ridged on 18 and 26 Feb.
Mar	4	62.5	159	3.5	9	
	11	65.0	165	3.0	8	
	18	70.0	178	2.0	5	
	26	70.5	179	2.0	5	Surface smooth during March.
Apr	1	73.5	187	1.5	4	
	8	73.0	185	2.5	6	
	15	74.5	189	1.5	4	
	22	77.5	197	1.5	4	
	24					Pilot reports a large open lead about 20 miles south.
	29	76.5	194	1.5	4	
May	6	77.5	197	2.0	5	Maximum ice thickness on 22 April and 6 May.
	13	77.0	196	1.5	4	Few ice cracks observed since 21 Jan.
	20	77.0	196	1.0	3	Surface lightly ridged since 1 April. Several blind leads extending E-W and 1/2 to 1 mi. wide.
	22					Many puddles forming on Bay due to runoff from

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						land.
	24					Large lead reported 14 mi. from shore about 12 mi. wide extending east to west.
	27	77.0	196			No snow on the ice.
Jun	3	70.0	178	1.0	3	Last ice thickness measurement for the season. Surface moderately ridged on 27 May and 3 June. Numerous ice cracks since 20 May.
	8					Unable to get on the ice as open water is along the shore. A large lead observed about 10 mi. out. Many cracks in ice and larger puddles forming.
Sault Ste. Marie (ONT):		**Measurements made at A-300 ft E of lock, B-600 ft E of lock, C-1700 ft W of lock and D-2000 ft W of lock (assumed Canadian).**				
1977						
Feb	14					No ice measurements at sites A and B, ice conditions are unsafe.
	14	16.0	41	2.0	5	Site D ice and snow data, with 5 in. of shell ice observed.
	14	17.5	44	3.0	8	Site C ice and snow data.
Mar	7					Ice still unsafe at sites A and B.
	7	21.0	53	6.0	15	Site D ice and snow data.
	7	25.0	64	6.0	15	Site C ice and snow data. Maximum ice thickness observed.
	14					Ice still unsafe at sites A and B. No further measurements made for the season.
Schefferville (QUE):		**Measurements made at Knob Lake.**				
1976						
Nov	18	11.5	29	4.0	10	First ice thickness measurement for the season.
	27	15.0	38	7.0	18	Surface smooth.
Dec	4	18.0	46	3.5	9	
	13	20.0	51	3.0	8	
1977						
Jan	7	20.0	51	10.0	25	
	10	29.0	74	5.0	13	
Mar	5	37.0	94	18.0	46	
	14					Ice thickness measurement at Squaw Lake on this date was 91 cm and snow depth 23 cm.
	22					Ice thickness measurement at Squaw Lake on this date was 94 cm and snow depth 36 cm. Surface smooth, no ice cracks on Squaw Lake on 14 and 22 March.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	26	35.0	89	11.0	28	
Apr	2	41.0	104	13.0	33	
	12	36.0	91	11.0	28	
	17	34.5	88	10.0	25	Knob Lake data during April. No ice cracks observed since 7 Jan.
May	5	53.0	135	3.0	8	Maximum ice thickness observed. Sudden ice accumulation may be the result of snow ice formation (Authors).
	14	49.0	124	1.0	3	Last ice thickness measurement for the season. Surface smooth since 7 Jan.
	31					Puddles of water on the ice surface. Lake edges have thawed and it is impossible to continue measurements. Last report for the season, ice is unsafe.
Snowshoe Lake (Alaska):		**Measurements made on Snowshoe Lake, about 200 yd W of aircraft charter facilities on E shore of lake.**				
1976						
Oct	1					Ice is shallow south end of the lake out about 150 yd receding by midday. Ice continued to form and recede.
	8					Ice has held firmly at about 250 yd from south end and along shoreline with pan ice through rest of lake.
	14					About 1/3 of the lake frozen until wind at midday took it back to about 1/4.
	18					Lake about 3/4 ice covered, just the deepest areas are still open.
	23	3.0	8			First ice thickness measurement for the season.
	24					Lake now frozen over.
	30	7.0	18	1.0	3	Few open holes along the east shore at small drainage outlet from a slope. Numerous ice cracks on 23 and 30 Oct.
Nov	6	8.5	22	3.5	9	Surface smooth since 23 Oct.
	10					Many open holes over the entire lake surface but starting to freeze again.
	13	13.5	34	1.5	4	All of the lake has been covered with overflow as ice broke down under the weight of new snow. Ice measurement was 2 in. ice, then 3.5 in. water, then 8 in. solid ice.
	20	13.5	34	1.5	4	All solid ice now, overflow has frozen.
	27	14.5	37	2.0	5	Snow cover slightly less than 2 in.
	30					Entire lake is covered with water on top of the ice. Surface moderately ridged since 13 Nov.
Dec	4	18.0	46			Water on top of ice from rainfall is now all frozen.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						Trace of snow on the ice. Few to numerous ice cracks observed since 6 Nov.
	11	20.0	51	3.5	9	
	18	21.5	55	4.0	10	
	25	22.0	56	7.0	18	Snow density during Dec varied from 0.160 to 0.190 g/cm^3.
1977						
Jan	1	22.5	57	7.0	18	
	8	23.0	58	7.0	18	
	15	23.5	60	7.5	19	
	22	24.0	61	8.0	20	
	29	24.5	62	8.0	20	Strong winds have drifted snow cover somewhat on the lake but height differences are less than 1 in. Density during Jan varied from 0.176 to 0.212 g/cm^3.
Feb	5	24.5	62	8.0	20	Water from Cache Creek, in SE corner of the lake, is flowing on the lake. Unusual conditions for this time of year, mostly a spring melt runoff occurring in April.
	12	25.0	64	8.5	22	Water in above runoff section is now frozen.
	19	25.5	65	14.0	36	
	26	26.0	66	13.0	33	Snow density during Feb ranged from 0.194 to 0.232 g/cm3.
Mar	5	26.0	66	14.0	36	
	12	26.5	67	14.0	36	
	19	27.0	69	14.0	36	
	26	27.5	70	14.0	36	Snow density during Mar ranged from 0.197 to 0.221 g/cm^3.
Apr	2	27.5	70	17.5	44	Surface smooth since 4 Dec 1976.
	9	28.0	71	16.0	41	Water over the entire area, open holes at several locations. Water also in the bottom 3 in. of the snow cover.
	16	32.0	81	10.0	25	Ice thickness consists of 1 in. ice, 3 in. water and 28 in. solid ice. Bay in SW corner at Cache Creek, inlet is water covered, and more holes appearing. Snow density since 2 April ranged from 0.207 to 0.292 g/cm^3.
	23	28.0	71	5.0	13	Snow density is now very hard (0.352 g/cm^3). Ice sheet consisted of 1 in. ice, 3 in. water and 24 in. ice.
	30	33.0	84			Maximum ice thickness observed. Last ice thickness measurement for the season. No snow on the ice. Surface moderately to heavily ridged since 9 April. Few ice cracks observed since 11 Dec 1976. First 3 in. ice more like frozen wet snow, very granular, then 7 in. of soft very wet ice, and

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						23 in. of solid ice. Solid ice portion is not as hard as it has been. Water is now spreading over most of the south end of the lake.
May	12					Lake ice now unsafe for ski-planes.
	15					Tazlina Lake (a large glacial lake) south of Snowshoe Lake now ice free, which is earliest ever noted and probably due to "prolonged southerly winds," according to the observer.
	18					Snowshoe Lake ice now unsafe to walk on.
	20					Snowshoe Lake ice moved.
	31					Snowshoe Lake ice-free.
Ste. Agathe des Monts (QUE):		**Measurements made 1000 ft from Hydravion dock in a straight line with Cross of Petites Alpes and perp. to white house on beach.**				
1976						
Nov	6					Ice has begun to form.
Dec	8	8.0	20			First ice thickness measurement for the season. No snow on the ice.
	17	8.5	22	6.5	17	
	24	8.5	22	10.0	25	Surface smooth on 17 and 24 Dec. 8.5 cm water under the snow.
	31	13.0	33	3.0	8	Some regions no longer have snow on the ice.
1977						
Jan	7	16.0	41	6.0	15	
	14	17.5	44	12.0	30	Surface lightly ridged since 31 Dec 1976.
	22	20.0	51	11.5	29	
	28					No measurement was made.
Feb	4	19.0	48	13.5	34	
	11					No measurement was made.
	19	18.0	46	7.0	18	5.7 in. of water under the first layer of ice.
	27	19.0	48	9.0	23	6 in. of hardened snow and water under the snow layer.
Mar	4					No measurement was made.
	11	21.5	55	1.0	3	9 in. of water and snow above the main (solid) ice sheet.
	18	31.0	79	0.5	1	Maximum ice thickness observed. Water exists between two ice layers.
	25	25.5	65	1.0	3	
Apr	1	22.0	56	0.5	1	"Blind lead" on small river is about 800 ft long and 12 ft wide.
	9	23.0	58	1.0	3	Last ice thickness measurement for the season. "Blind lead" now partially frozen. Surface smooth since 22 Jan. No ice cracks observed since 8 Dec 1976.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	16					End of measurements, ice sheet now unsafe.
Steese Highway (Mile 41) (Alaska):		**Measurements made on the Chatnika River, 10 ft from the bank and about 100 to 150 ft downstream from the observer's home.**				
1977						
Feb	13	28.0	71			First ice thickness measurement for the season.
	20	28.0	71			Ice sheet covered with "glacier" ice instead of snow on 13 and 20 Feb.
	23					Cooling air temperatures stopped the water overflow on the ice.
	27	35.0	89	2.0	5	10 in. of glacier ice on the river ice. No leads or ice cracks observed during Feb.
Mar	6	36.0	91	1.5	4	Glacier ice on the surface.
	12	36.0	91	3.0	8	Surface smooth.
	29	36.0	91	2.5	6	Maximum ice thickness observed since 6 Mar. Snow and glacial ice on the surface.
Apr	30					River ice unsafe to walk on alone during April.
May	2					Main river ice sheet moved out.
	8					Remaining river ice at mile 41 melted during 7 and 8 May.
Summerside (P.E.I.):		**Measurements made in a harbor of Northumberland Strait, about 100 yd west of south end of railway wharf.**				
1976						
Nov	19	0.5	1			
	26	0.5	1			Ice measurements on 19 and 26 Nov were taken from a pilot boat.
Dec	3	3.0	8			
	10	6.0	15			
	17	8.0	20			
	24	10.5	27			
	31	13.0	33			The ice breaker kept the channel open during Dec to allow the ships to arrive and depart. Surface rough since 19 Nov.
1977						
Jan	8	14.0	36			
	15	17.5	44			No snow on the ice since 19 Nov 1976. Ice measurements during 1977 were moved to 200 ft north of the original site, and observer notes that aerial conditions at both locations are similar.
	22	23.5	60	2.0	5	
	29	21.5	55			No snow on the ice. Surface is quite smooth and

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
						ideal for snowmobile traffic and skiing in some areas. No open water and surface is rough in the channel.
Feb	4	24.0	61	2.0	5	
	11	25.0	64	3.0	8	
	18	29.0	74	9.0	23	Maximum ice thickness observed.
	25	27.5	70	2.0	5	No open water. Few ice cracks observed since 8 Jan.
Mar	4	27.0	69			No snow on the surface.
	11	16.0	41	1.0	3	
	18	20.5	52			No snow on the surface. Ice measurements on 11 and 18 March were double-checked for accuracy.
	25	18.0	46	3.0	8	Ice sheet is hard for about the top 7 in. Ice below that level is getting soft and deteriorating. Last ice thickness measurement for the season. Some ice cracks observed. Surface smooth during March.
Tanana (Alaska):		**Measurements made on the Yukon River, 125 yd from the bank opposite the FAA-FSS stations.**				
1977						
Apr	17	32.0	81			First ice thickness measurement for the season. A second reading taken in the middle of the river was 37 in. and a third reading 150 yd from Long Island in the Tanana Channel was 40 in. About 3 ft of snow on the average and the surface is moderately ridged.
	24	33.0	84			Maximum ice thickness observed at this river location.
May	1	32.0	81			Last ice thickness measurement for the season. Only a brief record received this winter (Authors).
Thunder Bay (ONT):		**Measurements made in Thunder Bay Harbour, about 10 m off the Natural Resources Seaplane base dock, 600 m NE of Port Arthur shipyard.**				
1976						
Dec	3	9.5	24	2.0	5	First ice thickness measurement for the season.
	4					Icebreaker "Alexander Henry" arrived and started ice-breaking operations. Unlike previous years, no ice is being broken within 1 mile of the observing site. Only leads in the harbor extend from the main entrance southward where ship traffic has been usually heavy.
	10	11.0	28	7.0	18	
	17	13.0	33	5.0	13	
	24	14.0	36	6.0	15	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	31	23.5	60	1.0	3	
1977						
Jan	7	6.5	17	5.0	13	These last two ice values are as reported in the original report. However, they appear to be possibly incorrect or unrepresentative (Authors).
	14	22.5	57	3.5	9	
	21	24.5	62	5.5	14	No ice cracks observed since 3 Dec 1976.
	28	26.5	67	5.0	13	Spot measurements taken within a radius of 200 m of the observing site indicate that the ice is much thicker away from the dock (in excess of 91 cm). Few ice cracks, but no leads, observed.
Feb	4	28.0	71	5.0	13	
	11	29.0	74	7.0	18	
	18	30.5	77	7.0	18	
	25	32.0	81	9.0	23	Recent ice thicknesses taken by CCGS Griffen of 76 to 81 cm confirm that the observing site values are fairly representative of the overall conditions up to the breakwater.
Mar	4	32.0	81	8.5	22	No ice cracks observed since 4 Feb.
	11	33.0	84	2.0	5	Maximum ice thickness observed. The increase of 3 cm this past week was due to the melting and freezing of the snow cover. Ice has shown signs of deterioration between 2 and 3 March but the rate leveled off during the past week. Few ice cracks observed.
	18	28.0	71			No snow on the ice.
	25	26.5	67			Trace of snow on the ice.
Apr	1	22.0	56			
	7	21.5	55			Last ice thickness measurements for the season. No snow on the ice on 1 and 7 April. Numerous ice cracks observed since 18 March. Surface smooth since 3 December 1976.
	14					Ice reports discontinued due to small breaks and honeycombed ice in observation area. Air temperatures have been mild but very little ice movement noted within the breakwater. Winds have been easterly, preventing any escape route for any ice that may have broken up in the area.
Tuktoyaktuk (N.W.T.):		**Measurements made in Tuk Harbour, 365.8 m SE of the N.T.C.L. main dock.**				
1976						
Oct	12					Harbour froze over on this date.
	22	6.0	15			No ice cracks observed.
	29	12.0	30	1.0	3	Few ice cracks observed.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Nov	5	17.0	43	1.0	3	
	12	18.0	46	1.0	3	
	19	19.0	48	2.0	5	
	26	20.0	51	2.5	6	No ice cracks since 5 Nov.
Dec	3	22.0	56	2.0	5	
	10	28.0	71	2.0	5	
	17	32.0	81	2.0	5	
	31	37.0	94	2.0	5	
1977						
Jan	7	38.0	97	7.0	18	
	14	39.0	99	7.0	18	
	21	44.0	112	5.0	13	
	28	46.0	117	6.0	15	Last ice thickness measurement for the season. No reason for the early termination of the ice observation program was given (Authors).
Welland Canal (A) (ONT):						**Measurements made on Port Weller Harbour.**
1977						
	10	2.5	6			First ice measurement for the season.
	17	4.0	10			Floating pancake ice, and no snow on the ice on 10 and 17 Jan.
	24	6.0	15			Ice sheet is level. Maximum ice thickness observed at this site.
Feb	7	5.0	13			1 to 2 in. on the level ice.
	14	4.5	11			Floating pancake ice and 20% open water.
	21	3.0	8			Pancake ice and new ice observed.
	28					Open water.
Mar	28					Open water during all of March. Last observation for the season.
Welland Canal (B) (ONT):						**Measurements made on Welland Canal above the Guard Gate.**
1977						
Jan	10	9.5	24			First ice thickness measurement for the season. No snow on the ice.
	17	13.5	34			No snow on the level young ice at centerline plus 60 cm ridged ice E and W of the centerline.
	24	17.5	44			No snow on the level new ice at the centerline plus 62 cm ridged ice E and W of the centerline.
Feb	7	19.5	50			2 to 5 in. of snow on the level ice sheet, but 60 cm of ridged ice E and W of the centerline.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
	14	21.5	55			No snow on the clear level ice at the centerline, but 64 cm of ridged ice E and W of the centerline.
	21	23.0	58			No snow on the clear ice and 64 cm of ridged ice E and W of the centerline. Maximum ice thickness observed at this site.
	28	17.0	43			No snow on the clear ice and 45 cm ridged ice E and W of the centerline.
Mar	7	16.0	41			No snow on the clear ice, plus 40 cm ridged ice E and W of the centerline.
	14					5 cm soft ice on the northside of the bridge, and open water on the south side.
	21					2 cm of nilas ice with areas of open water. Last ice measurement for the season.
	28					Open water.
Welland Canal (C) (ONT):		**Measurements made on Welland Canal opposite Wharf 10. (By-Pass Channel)**				
1977						
Jan	17	8.0	20			First ice measurement for the season. No snow on the ice.
	24	10.5	27			
Feb	7	12.5	32			Maximum ice thickness observed at this site.
	14	11.0	28			
	21	3.0	8			Last ice thickness measurement for the season. No snow on the ice since 24 Jan.
	28					Open water.
Mar	7					Open water from side to side.
	28					Open water since 14 March.
Welland Canal (D) (ONT):		**Measurements made on Welland Canal at Bridge 19.**				
1977						
Jan	10	7.5	19	10.5	27	First ice thickness measurement for the season.
	17	8.0	20	2.5	6	
	24	9.5	24	2.0	5	
Feb	7	12.5	32	4.5	11	
	14	12.5	32			No snow on the ice.
	21	14.0	36	0.5	1	Maximum ice thickness observed at this site.
	28	13.0	33			No snow on the ice.
Mar	7	12.5	32			Last ice thickness measurement for the season.
	28					Open water since 14 March.

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Welland Canal (E) (ONT):		**Measurements made at Port Coborne Harbour.**				
1977						
Jan	10	5.0	13	3.5	9	First ice thickness measurement for the season.
	17	9.5	24	1.5	4	
	24	12.0	30	2.0	5	
Feb	7	16.0	41	2.5	6	
	14	15.0	38			No snow on the ice.
	21	17.5	44	0.5	1	
	28	15.0	38			
Mar	7	18.0	46			Maximum ice thickness observed at this site. No snow on the ice on 28 Feb and 7 March. Last ice thickness measurement for the season.
	14					Open water with patches of needle ice.
	28					Open water on 21 and 28 Mar.
Yellowknife (N.W.T.):		**Measurements made on Back Bay, approximately 175 yd NW of Northward Aviation float base.**				
1976						
Nov	15	9.0	23			First ice thickness measurement for the season. An additional ice measurement, made across the island on South Bay, was about 13 cm.
	23	14.0	36			No snow on the ice on 15 and 23 Nov.
	25					Aircraft are now operating on the bay.
Dec	1	19.0	48	3.0	8	
	8	23.0	58	3.0	8	
	15	28.0	71	3.0	8	
	23	31.0	79	3.0	8	
1977						
Jan	2	33.0	84	4.0	10	
	8	38.0	97	4.0	10	
	15	36.0	91	5.0	13	
	23	43.0	109	5.0	13	
Feb	1	44.5	113	5.0	13	
	8	46.0	117	6.0	15	
	15	51.0	130	6.5	17	
	23	48.0	122	12.0	30	
Mar	1	37.0	94	13.0	33	
	8	46.0	117	10.0	25	
	15	39.5	100	9.0	23	
	23	41.0	104	12.0	30	

TABLE III. ICE THICKNESS 1976-1977

DATE		Ice Thickness (in.)	Ice Thickness (cm)	Snow Thickness (in.)	Snow Thickness (cm)	REMARKS
Apr	1	53.0	135	10.0	25	
	8	45.0	114	11.0	28	
	15	54.0	137	6.0	15	Maximum ice thickness observed.
	23	53.0	135	3.0	8	
	25					Warm air temperatures and strong winds on 23, 24 and 25 April have melted surrounding snow cover and water run-off has flowed on the ice surface. Heavier equipment is being moved off the ice.
May	0					
	1	40.0	102			
	6	39.5	100			Last ice thickness measurement for the season. No snow on the ice on 1 and 6 May. Surface smooth, no ice cracks observed since 15 Nov 1976.
	13					Further ice observation not possible due to open water along the shoreline.
	16					Last aircraft was taken off the ice on this date.
	25					Back Bay now free of ice. Several float planes now in operation.

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This is the ninth in a series of reports on lake and river ice and land-fast sea ice. It presents ice thickness measurements taken throughout the North American Arctic and Subarctic during the 1974–75, 1975–76 and 1976–77 winter seasons. Information on surface ice conditions, dates of first ice, freeze-over, breakup and observed maximum ice thicknesses are also included.

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